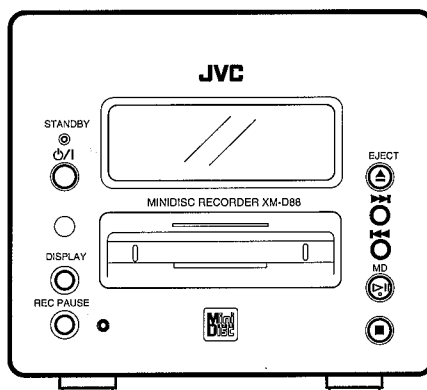
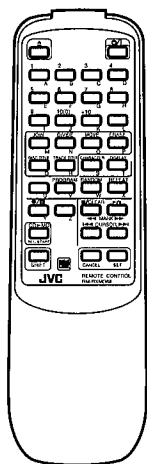


JVC

SERVICE MANUAL

MINIDISC RECORDER

XM-D88GD



Area Suffix

B	U.K.
E	Continental Europe
EN	North Europe
G	Germany
J	U.S.A.
UB	Hong Kong
UT	Formosa
U	Other Areas

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Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)

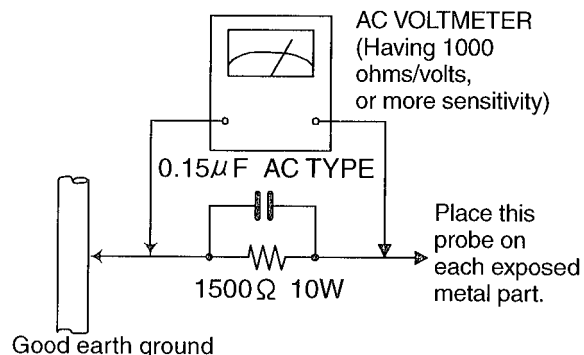
- Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. voltage measured Any must not exceed 0.75 V AC (r.m.s.).


This corresponds to 0.5 mA AC (r.m.s.).



Warning


1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Safety Precautions (U.K only)

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits.
2. Any unauthorised design alterations or additions will void the manufacturer's guarantee ; furthermore the manufacturer cannot accept responsibility for personal injury or property damage resulting therefrom.
3. Essential safety critical components are identified by () on the Parts List and by shading on the schematics, and must never be replaced by parts other than those listed in the manual. please note however that many electrical and mechanical parts in the product have special safety related characteristics. These characteristics are often not evident from visual inspection. Parts other than specified by the manufacturer may not have the same safety characteristics as the recommended replacement parts shown in the Parts List of the Service Manual and may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

Warning

1. Service should be performed by qualified personnel only.
2. This equipment has been designed and manufactured to meet international safety standards.
3. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
4. Repairs must be made in accordance with the relevant safety standards.
5. It is essential that safety critical components are replaced by approved parts.
6. If mains voltage selector is provided, check setting for local voltage.

 **CAUTION** Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.

Important for Laser Products

1.CLASS 1 LASER PRODUCT

2.DANGER : Invisible laser radiation when open and inter lock failed or defeated. Avoid direct exposure to beam.

3.CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.

4.CAUTION : The compact disc player uses invisible laserradiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.

5.CAUTION : If safety switches malfunction, the laser is able to function.

6.CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstrålning ved åbning,når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

(Except for the U.S.A.and Canada and UP)

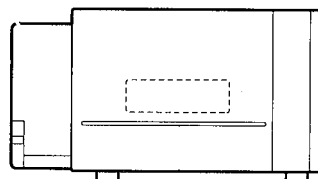
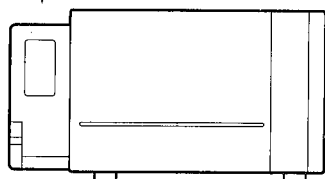
DANGER : Invisible laser radiation when open and interlock or defeated.
AVOID DIRECT EXPOSURE TO BEAM (e)

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (d)

VARNING : Osynlig laserstrålning är denna del är öppnad och spårren är urkopplad. Betrakta ej strålen. (s)

ADVARSEL : Usynlig laserstrålning ved åbning , når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. (f)

**CLASS 1
LASER PRODUCT**

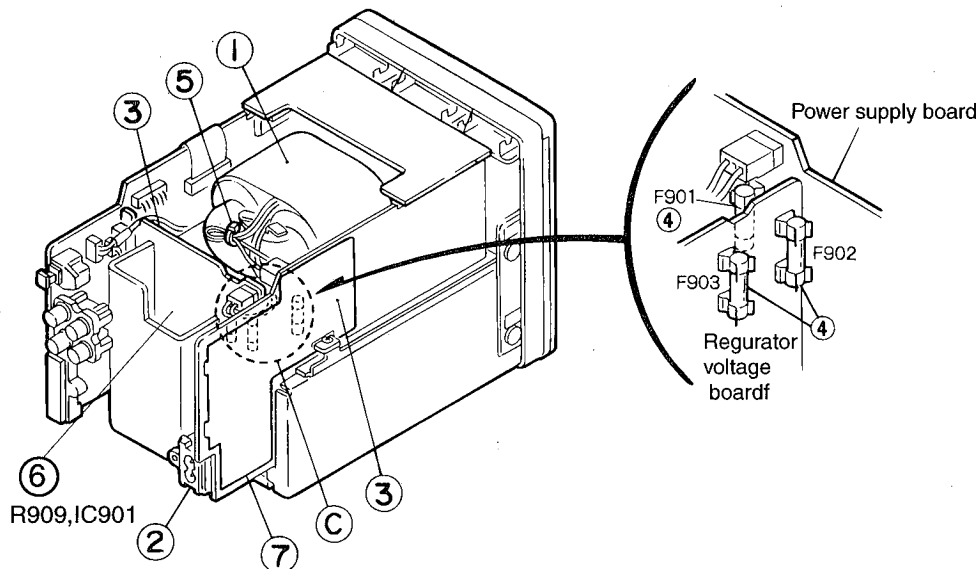


■ Important administration points regarding safety

1. Power transformer making number VTP09J4-12A (UB/US/UT/U version)
Power transformer making number VTP09J4-12A (B/E/EN/G version)
The torque of the screw driver for the power transformer must be controlled.
2. Concerning the AC socket . the next marking must be confirmed and to avoid print circuit board pattern damage, the AC socket must not float from print circuit board. Marking number HSC-0528
3. Concerning the primary terminal and the adjacent secondary terminal on the print circuit board to provide proper creeping and spatial distance, solder must not protrude from soldering round.
4. Before installation confirm the fuse capacity indication, UL or CSA marks on the fuse cap, when installing, confirm if the fuse is held tightly with the fuse holder.

Ref. No.	Capacity and mark	Indication on printed circuit board	Area Suffix
F901	T125mA	T125mA	B/E/EN/G
F901	T200mA	T200mA	UB/US/UT/U
F902	T1.6A	T1.6A	B/E/EN/G
F902	T1.6A	T1.6A/125V	UB/US/UT/U
F903	T630mA	T630mA	B/E/EN/G
F903	T630mA	T630mA	UB/US/UT/U

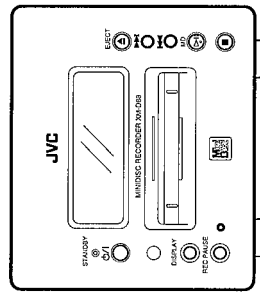
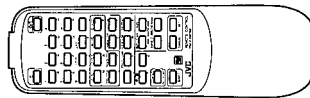
5. Wire must be clamped or secured at the location shown in the figure so that the wire do not touch to live parts , moving parts, hot parts or shap edges.
6. Following parts are controlled as the heated parts, confirm that the flammable parts are lifted up , the parts in () must be controlled.
IC: IC901, Resistor: R909
7. The barrier must be attached on the power supply board.



JVC

MINIDISC RECORDER
GRABADOR DE MINIDISCOS
REGISTRATORE PER MINIDISCHI

XM-D88 E



INSTRUCTIONS

ISTRUCCIONES
MANUALE DI ISTRUZIONI

ENGLISH

Thank you for purchasing this JVC product. Please read these instructions carefully before starting operation to be sure to obtain optimum performance and a longer service life from the unit.



ESPAÑOL

Le agradecemos la adquisición de este producto de JVC. Por favor lea detenidamente las instrucciones antes de comenzar la operación para obtener de esta unidad un rendimiento óptimo y una vida de servicio más larga.

ITALIANO

Grazie per avere acquistato questo prodotto JVC. Si prega di leggere queste istruzioni con attenzione prima dell'uso per essere certi di ottenere prestazioni ottimali ed una lunga durata dell'unità.

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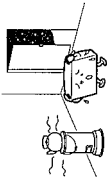
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HANDLING PRECAUTIONS



Do not use this unit in direct sunlight where it would be exposed to high temperatures above 40°C (104°F).



No utilice esta unidad bajo la luz directa del sol donde podría quedar expuesta a temperaturas superiores a 40°C.



Non utilizzare questa unità in luoghi esposti alla luce solare diretta dove la temperatura può superare i 40°C.

PRECAUZIONI PER L'USO

PRECAUCIONES DE MANIPULACION

- Avoid installing in the following places**
 - Where it could be subject to vibrations.
 - Where it is excessively humid, such as in a bathroom.
 - Where it could be magnetized by a speaker.
- Condensation**

In the following cases, condensation may occur in the unit, in which case the unit may not operate correctly.

 - In a room where a heater has just been switched on.
 - In a place where there is smoke or high humidity.
 - When the unit is moved directly from a cold place to a warm one.
 - In these cases, set the $\phi/1$ button to **STANDBY** and wait 1 or 2 hours before use.
- Volume setting**

MDs produce very little noise compared with analogue sources. If the volume level is adjusted for these sources, the speakers may be damaged by the sudden increase of output level. Therefore, lower the volume during playback and adjust it as required.
- Keep this unit away from your TV**

When this unit is used near a TV, the TV picture could be distorted. If this happens, move this unit away from the TV. If this does not correct the situation, avoid using this unit when the TV is turned on.
- Cleaning the cabinet**

When the cabinet gets dirty, wipe it with a soft, dry cloth. Never use any liquid cleaner as these could damage the surface finish.
- When listening with headphones**
 - Do not listen at high volumes as this could damage your hearing.

- Evite instalarla en los siguientes lugares**
 - Donde pueda ser sujeta a vibraciones.
 - Donde haya humedad excesiva, tal como en un cuarto de baño.
 - Donde pueda ser magnetizada por un imán o altavoz.
- Condensación**

En algunos casos, puede producirse condensación dentro de la unidad en consecuencia la unidad no funcionará correctamente.

 - En una sala donde haya un calentador encendido.
 - En un lugar donde haya humo o gran humedad.
 - Cuando se traslada rápidamente la unidad de una sala fría a una templada.
 - En estos casos, coloque el botón $\phi/1$ en **STANDBY** (conectado) y espere 1 o 2 horas antes de utilizarla.
- Ajuste del volumen**

Los productos de MD producen muy poco ruido comparados con las fuentes analógicas. Si ajusta el nivel de volumen para estas fuentes, es posible que los altavoces sean dañados por el incremento de nivel de salida. Por ello, reduzca el volumen antes de la reproducción.
- Mantenga esta unidad lejos de su TV**

Cuando se usa esta unidad próxima a un TV, la imagen de éste puede ser distorsionada. Si ello ocurre, mueva esta unidad lejos del TV. Si esto no corrige el problema, evite usar esta unidad cuando el TV está encendido.
- Limpieza del gabinete**

Si el gabinete se ensucia límpielo con un paño suave y seco. Nunca utilice bencina o solventes ya que estos pueden dañar la terminación de la superficie.
- Cuando escuche con auriculares**
 - No escuche con el volumen muy alto porque podrían dañarse sus oídos.

- Evitare l'installazione nei luoghi seguenti**
 - In luoghi dove l'unità può essere soggetta a vibrazioni.
 - In luoghi eccessivamente umidi come una stanza da bagno.
 - In luoghi dove l'unità può essere magnetizzata da un magnete o da un diffusore.
- Condensazione**

Nel caso sequenti della condensa si potrebbe formare nell'unità impedendo il funzionamento corretto dell'unità stessa.

 - In una stanza in cui il riscaldamento è appena stato acceso.
 - In un luogo fumoso o con elevata umidità.
 - Quando l'unità viene spostata direttamente da una stanza fredda ad una calda.
 - In questi casi, portare il tasto $\phi/1$ su **STANDBY** (attivando) 1 o 2 ore prima di utilizzare l'unità.
- Impostazione del volume**

I MD producono un rumore estremamente basso se confrontati con fonti analogiche. Se il livello del volume fosse impostato per tali fonti, i diffusori potrebbero venire danneggiati dall'improvviso aumento del livello in uscita. Abbassare perciò il volume prima dell'uso e ridurre il volume prima della riproduzione.
- Tenere l'unità lontana dal televisore**

Quando questa unità viene utilizzata in prossimità di un televisore, l'immagine TV potrebbe venire distorta. Se ciò dovesse accadere, allontanare l'unità dal televisore. Se ciò non fosse sufficiente ad eliminare le interferenze, evitare di utilizzare questa unità quando il televisore è acceso.
- Limpieza del exterior dell'unità**

Se il guscio dell'unità si sporca, pulirla con un panno morbido ed asciutto. Non usare mai benzina o diluente in quanto essi possono danneggiare la finitura della superficie.
- Ascolto con le cuffie**
 - Non ascoltare ad alto il volume in modo da danneggiare le orecchie.

CONNECTIONS

- Do not switch the power on until all connections are completed.

CONEXIONES

- No conecte la alimentación hasta haber completado todas las conexiones.

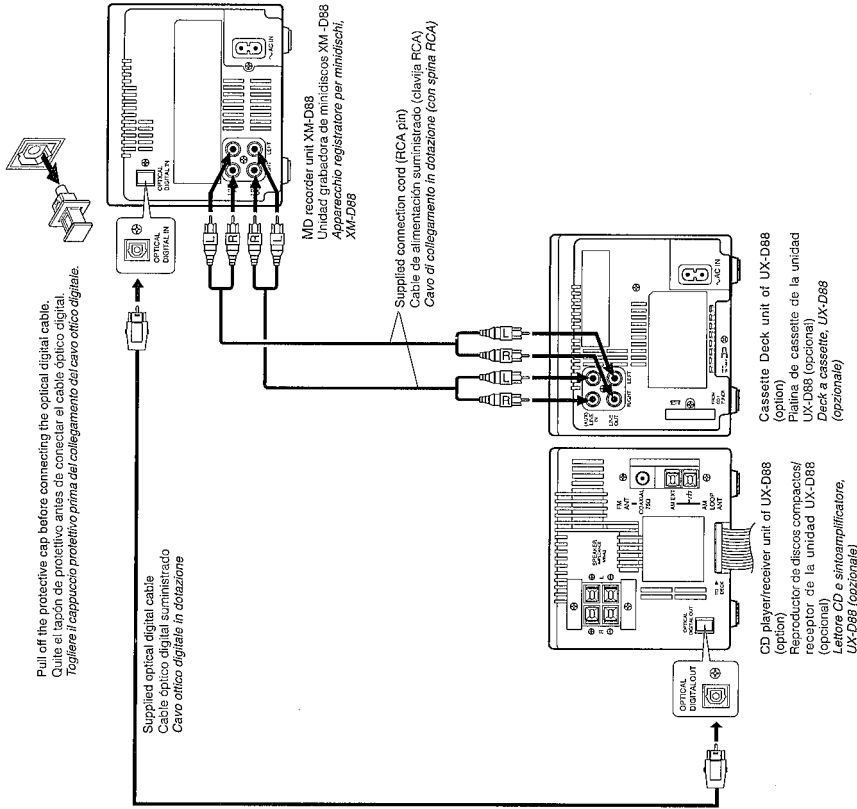
COLLEGAMENTI

- Non attivare l'alimentazione prima del completamento dei collegamenti.

Note:
Only connect the unit with the UX-D88 (option).
Do not connect other units.

Note:
Conecte esta unidad solamente a la unidad UX-D88 (opcional). No la conecte a ninguna otra unidad.

Note:
Questo apparecchio può essere collegato solamente con l'UX-D88 (opzionale). Non collegare l'apparecchio con alcun altro componente o dispositivo.



Notes:

- Digital recording cannot be done if the optical cable is not connected. Connect it to make a digital recording.
- If the RCA pin cord is connected to the LINE IN terminals, analog recording can be performed.
- When not using the optical digital cable, keep the protective cap in place.

Notes:

- Si el cable óptico no está conectado la grabación digital no podrá realizarse.
- Si el cable de clavija RCA está conectado a los terminales LINE IN, es posible efectuar la grabación analógica.
- Tenga siempre puesto el tapón de protección a no ser que utilice el cable óptico digital.

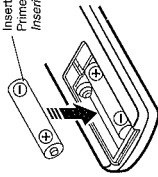
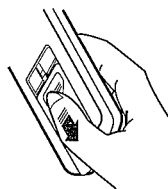
Note:

- La registrazione digitale non è possibile senza il collegamento del cavo ottico. Per la registrazione digitale provvedere a collegarlo.
- Se il cavo a clavija RCA è collegato ai terminali di ingresso di linea LINE IN si può effettuare la registrazione analogica.
- Quando non si fa uso del cavo ottico digitale, lasciare in posizione il cappuccio di protezione del terminale.

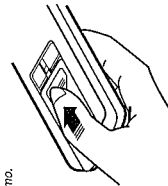
REMOTE CONTROL UNIT

Preparation before use

- Installing batteries in the remote control unit
 1. Remove the battery cover from the back of the remote control unit.
 2. Insert two "R6/AA (15F)" size batteries, terminals matching the indication inside the battery compartment.
 3. Replace the cover.



Insert the \ominus ends first.
Primeramente inserte el terminal \ominus .
Inserire il lato \ominus per primo.



Battery replacement

When the remote control operation becomes unstable or the distance from which remote control is possible decreases, replace the batteries.

Reemplazo de las pilas

Cuando el funcionamiento del controlador remoto se vuelve inestable o la distancia dentro de la cual actúa se reduce, reemplaze las pilas.

Sostituzione batterie

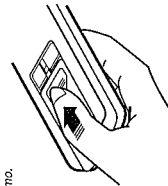
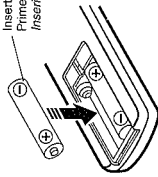
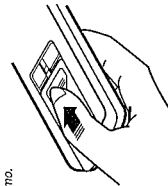
Quando il funzionamento dell'unità di telecomando è intermittente oppure quando la distanza utile diminuisce, sostituire le batterie.

UNITÀ DI TELECOMANDO

Preparativi antes usarla

- Instalación de las pilas en la unidad de control remoto
 1. Extraiga la tapa de las pilas de la parte trasera de la unidad de control remoto.
 2. Inserte dos pilas de tamaño "R6/AA (15F)".
 3. Coloque la tapa.

Insert the \ominus ends first.
Primeramente inserte el terminal \ominus .
Inserire il lato \ominus per primo.



Reemplazo de las pilas

Cuando el funcionamiento del controlador remoto se vuelve inestable o la distancia dentro de la cual actúa se reduce, reemplaze las pilas.

Sostituzione batterie

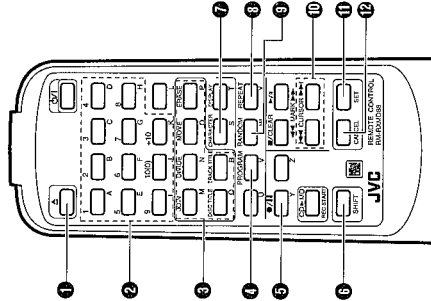
Quando il funzionamento dell'unità di telecomando è intermittente oppure quando la distanza utile diminuisce, sostituire le batterie.

The following operations can be performed using the remote control unit.

- Check the operation button functions carefully and operate them correctly.

Las siguientes operaciones deben ser efectuadas utilizando la unidad de control remoto.

- Compruebe detalladamente el funcionamiento de los botones de operación y opérelos correctamente.



1. Δ (MD eject) button
2. Numeric keys [1-10] (0), [+10]
Used to select direct play and PROGRAM play.
Also used to enter the desired number in the character input mode.
3. Edit buttons
JOIN: Used to join two tracks into one tracks.
DIVIDE: Used to divide one track into two tracks.
MOVE: Used to change track order.
ERASE: Used to erase recorded tracks.
DISC TITLE: Used to enter disc title in the telecomando.
4. TRACK TITLE: Used to name tracks.
5. PROGRAM button
Record/pauses temporarily.
6. SHIFT button
Press to use operations written in blue. Refer to the list on page 11 for details.
7. CHARACTER button
Press to use the character input mode.
8. REPEAT button
Press to repeat the character input mode.
9. RANDOM button
Used to move the cursor when selecting tracks and entering characters.

1. Botón Δ (Expulsión del minidisco)
2. Botones numéricos [1-10] (0), [+10]
Usados para seleccionar la reproducción directa y la reproducción programada (PROGRAM).
Se emplean también para ingresar el número deseado en el carácter.
3. Botones de edición
JOIN: Para unir dos canciones en una sola. canciones.
DIVIDE: Para dividir una canción en dos canciones.
MOVE: Para reorganizar el orden de las canciones.
ERASE: Para borrar las canciones grabadas.
DISC TITLE: Para titular discos.
TRACK TITLE: Para titular canciones.
PROGRAM: Botón de programación (PROGRAM)
4. Botón de grabación/pausa (●/II)
5. Botón de cambio (SHIFT)
6. Botón de caracteres (CHARACTER)
7. Botón de repetición (REPEAT)
8. Botón de reproducción aleatoria (RANDOM)
9. Botones para mover el cursor (←→→→)
10. Empleados para mover el cursor al seleccionar canciones e ingresar caracteres.

1. Tasto Δ (espulsione del minidisco)
2. Tasti numerici [da 1 a 10] (0), e [+10]
Usati per selezionare la riproduzione diretta e per la riproduzione programata (PROGRAM).
Vengono utilizzati anche per digitare il numero desiderato.
3. Tasti di montaggio
JOIN: Usato per combinare due brani in uno. brani separati.
DIVIDE: Per la divisione di un brano in due brani separati.
MOVE: Per modificare l'ordine dei brani.
ERASE: Per cancellazione dei brani registrati.
DISC TITLE: Per l'assegnazione di un nome al disco.
TRACK TITLE: Per l'assegnazione di un nome ai brani.
4. Tasto per la programmazione (PROGRAM)
5. Tasto di pausa della registrazione (●/II)
6. Per la registrazione e la pausa della registrazione (SHIFT)
7. Tasto dei caratteri (CHARACTER)
8. Tasto di cambio (SHIFT)
9. Tasto di ripetizione (REPEAT)
10. Tasto di riproduzione casuale (RANDOM)
11. Tasti per muovere il cursore (←→→→)
12. Serve a spostare il cursore nel corso della selezione dei brani e dell'inserimento di caratteri.

PLAYING MDS

REPRODUCCION DE MINIDISCOS

RIPRODUZIONE DI MINIDISCHI

Playing an entire MD
The following example of playing an entire MD assumes an MD with 10 tracks and a total playing time of 33 minutes 52 seconds.

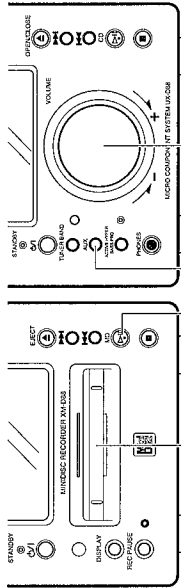
Reproducción de un MD completo
El siguiente ejemplo de reproducción de un MD completo supone que se ha colocado un MD con 10 pistas y un tiempo total de reproducción de 33 minutos y 52 segundos.

Riproduzione di un intero MD
L'esempio seguente per la riproduzione di un intero MD considera un MD con 10 brani ed un tempo di riproduzione totale di 33 minuti e 52 secondi.

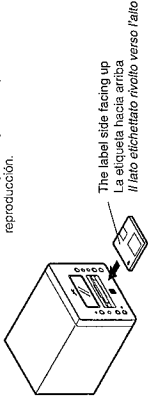
Operate in the order shown

Operare in el orden mostrado

Eseguire le operazioni nell'ordine indicato



- 1 Load an MD.
 - When an MD is loaded with the label side facing up, the power is switched on and it is inserted automatically.
 - After the "Reading" indication goes out, the total number of tracks and total playback time are displayed.
- 2 Set the function mode to AUX on the UX-D88.
 - When a track has finished playing, its number disappears from the music calendar.
 - Cuando una canción termina de reproducirse, su número desaparece del calendario musical.
 - Terminata la lettura di un brano, il suo numero scompare dalla lista dei brani.
- 3 Press MD > II.
 - Adjust the volume on the UX-D88.
 - When the desired MD is loaded, Press MD > II. The power is switched on and playback starts.
 - When ejecting an MD, Press the EJECT button. [EJECT] is indicated in the display window and the MD is ejected.



- 1 Insert the minidisc.
 - Insertando un minidisco con el lado etiquetado vuelto hacia arriba, la alimentación se conecta y el disco se inserta automáticamente al interior del aparato.
 - Alzo spuntar della voce "Reading", viene visualizzato il numero totale dei brani ed il tempo totale di riproduzione.
- 2 Collocation de un minidisco.
 - Cuando se inserta un minidisco con la cara de la etiqueta hacia arriba, la alimentación se conecta y el disco se inserta automáticamente.
 - Después de la indicación "reading", desapa- reza aparece indicado el número total de pistas y el tiempo total de reproducción.
- 3 Disporre la modalità di funzione dell'UX-D88 su AUX.
 - Premere MD > II.

- 1 Adjust the volume on the UX-D88.
 - When the desired MD is loaded, Press MD > II. The power is switched on and playback starts.
 - When ejecting an MD, Press the EJECT button. [EJECT] is indicated in the display window and the MD is ejected.
- 2 Para parar un disco
 - Para parar en el medio de un disco
- 3 Para parar en el medio de un disco
 - Total playback time
 - Tiempo total da reprodução
 - Tempo totale di riproduzione

- 1 Para parar un disco
 - Total playback time
 - Tiempo total da reprodução
 - Tempo totale di riproduzione
- 2 Para parar en el medio de un disco
 - Total playback time
 - Tiempo total da reproducción
 - Tempo totale di riproduzione
- 3 Para parar en el medio de un disco
 - Total playback time
 - Tiempo total da reproducción
 - Tempo totale di riproduzione

- 11 SET button
Used to enter edit settings and to mark tracks during recording.
 - 12 CANCEL button
Used to erase edits or entered characters.
- Buttons not mentioned here have the same functions as those on the main unit.

Los botones que no se mencionan aquí tienen las mismas funciones que los de la unidad principal.

I tasti non menzionati hanno le stesse funzioni di quelli corrispondenti dell'apparecchio principale.

- 13 Operation list when the SHIFT button is used
 - Lista de operaciones cuando se utiliza en botón SHIFT

		Recording of a CD can be done. Se puede grabar un disco compacto. La registrazione da un compact disc è possibile.
		When English uppercase letters are selected: A—Z can be entered. Quando se selezionan le lettere maiuscole: Possono essere inserite le lettere da "A" a "Z".
		When English lowercase letters are selected: a—z can be entered. Quando se selezionan le lettere minuscole: Possono essere inserite le lettere da "a" a "z".
		When Symbols are selected: — can be entered. Quando se selezionan simboli: Pueden ingresarse —. Selezionando i simboli: Possono essere inseriti i simboli [—].

- To stop a disc temporarily



- The "II" indicator lights. When this button is pressed again, play resumes from the point where it was paused.
- El indicador "II" parpadeará. Cuando se vuelva a presionar este botón, la reproducción se reanuda a partir del punto donde se hizo la pausa.
- Si summa. Premendo di nuovo questo tasto, la riproduzione riprende dal punto in cui era stata interrotta.

- Caution about the volume:

The sound output from an MD has less noise than that from analogue sources. If the volume has been adjusted by listening to noise, high volume before turning the power off. When an MD is not loaded and the MD > II button is pressed, [NO DISC] is indicated in the display window.

When loading an MD... A quiet "beep-beep" noise may be heard while "Reading" is indicated in the display window. This is not a malfunction.

- Precauciones acerca del volumen: La salida de sonido de un minidisco tiene menos ruido que la de las fuentes analógicas. Si el sonido ha sido ajustado para escuchar ruido, baje el volumen antes de desconectar la alimentación.
- Cuando presione el botón MD > II sin haber cargado un minidisco, en el visualizador aparecerá [NO DISC].
- Mientras "Reading" esté mostrado en el visualizador, podrá escucharse un ligero sonido "beep-beep". Esto no es un funcionamiento defectuoso.

Skip play (to search the beginning of the track)

Each time the > II or < II button is pressed, playback skips forward to the beginning of the next track, or back to the beginning of the track being played or to the previous track. It stops at the last track.



During Playback, skips to the beginning of the current track. Mantenga presionado para la búsqueda regresiva rápida. Tenere premuto per la ricerca rapida all'indietro.

Search play (to locate the required position on the MD)

The required position can be located by pressing the > II or < II button while playing an MD. Hold the button down; search play starts slowly and then gradually increases in speed. Since low volume sound (at about one quarter of the normal level) can be heard in the search mode, monitor the sound and release the button when the required position is located.



- Use the < II or > II CURSOR buttons to perform skip/search functions on an MD from the remote control unit.

Fast-reverse
Retroceso rápido
Retrocessione veloce

Fast-forward
Avance rápido
Avanzamento veloce

Note:

- Per eseguire le operazioni di salto o ricerca sul minidisco tramite telecomando, utilizzare i tasti del cursore < II o > II CURSOR.

To change the indication in the display window

When the DISPLAY button on the main unit or the remote control unit is pressed, the display changes as follows:

- In the Stop mode

The total number of tracks and total playback time. En los minidiscos. El número de canciones grabadas y el tiempo de grabación. El número total de brani ed il tempo totale di riproduzione per sola riproduzione viene visualizzata l'Indicazione 00:00.

- During playback

Track number and elapsed time. Número de canción y tiempo transcurrido. Numero del brano e tempo trascorso dall'inizio della riproduzione

- Durante la reproducción

Track name: when not registered, "NO TITLE" is indicated. Nombre de canción: cuando no se haya titulado, aparecerá "NO TITLE". Nome del brano: nel caso in cui non sia stato inserito, sul quadrante compare l'Indicazione [NO TITLE] (titolo non esistente).

Modifica delle indicazioni del quadrante

Premendo il tasto DISPLAY dell'apparecchio principale o del telecomando, la visualizzazione delle indicazioni cambia nel modo seguente:

- In modalità di arresto

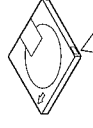
Disco name: when not registered, "NO TITLE" is indicated. Nombre de disco: cuando no se haya titulado, aparecerá "NO TITLE". Nome del disco: nel caso in cui non sia stato inserito, sul quadrante compare l'Indicazione [NO TITLE] (titolo non esistente).

- Nel corso della riproduzione

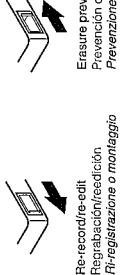
Track name: when not registered, "NO TITLE" is indicated. Nombre de canción: cuando no se haya titulado, aparecerá "NO TITLE". Nome del brano: nel caso in cui non sia stato inserito, sul quadrante compare l'Indicazione [NO TITLE] (titolo non esistente).

Handling minidisks

To avoid erasing important recordings prevention tab so that important recordings are not accidentally erased. When you finish recording or editing, slide open the erasure prevention tab on the side of the cartridge. New recording or editing is now no longer possible. To redo recording or editing, return the tab to the closed position.



Accidental erasure prevention tab. Lengüeta de prevención de borrado accidental. Lingüetta di prevenzione dalle cancellazioni accidentali



Re-record/edit. Regrabación/edición. Ri-registrazione o montaggio

Uso dei minidischi

Per evitare la cancellazione di registrazioni importanti. I minidischi sul quali la registrazione è possibile dispongono di una linguetta di prevenzione dalle cancellazioni, in modo da evitare che certe registrazioni importanti possano venire cancellate accidentalmente. Terminata la registrazione, aprire la linguetta di prevenzione, che si trova sul lato della cartuccia, in modo da aprirla. In questo modo diviene impossibile effettuare registrazioni o montaggi su questo disco. Per poter registrare di nuovo sullo stesso disco riportare la linguetta nella sua posizione originale.

To maintain beautiful sound indefinitely. El sonido es producido desde a cartucho, so it may be produced without any about dust and dirt. However, in order to enjoy beautiful sound for an indefinite period of time, follow these precautions:

Para conservar indefinidamente un sonido excelente. El disco en sí está protegido dentro del cartucho, de forma que puede ser manipulado fácilmente sin preocupaciones por el polvo o la suciedad. Sin embargo, para poder disfrutar de un sonido excelente durante tiempo indefinido, tenga en cuenta estas precauciones:

Conservazione all'infinito di un bel suono eccellente. Il disco in sé è protetto in una cartuccia, ed è quindi protetto da polvere e sporcizia, in modo da poter continuare a godere del magnifico suono del disco per lungo tempo, si consiglia comunque di osservare le seguenti precauzioni:

No abra el obturador
El obturador está bloqueado para impedir que se pueda abrir. Si trata de abrirlo a la fuerza estropeará el disco.

No apriete la lamella
La lamella è bloccata in modo da impedire l'apertura. Se si cerca di forzare l'apertura, il disco si rompe.

Preste atención al lugar donde coloca los discos
No coloque los discos en los siguientes lugares:
• Donde la temperatura sea muy alta tal como directamente bajo los rayos del sol o dentro de un coche.
• El disco se deformará y quedará irremediablemente inutilizable.
• Donde haya mucha humedad, p.ej., en un baño.
• El disco podrá oxidarse.
• En una playa o lugar polvoriento similar. La arena y el polvo podrán penetrar a través de las pequeñas aberturas del cartucho y ensuciar y rayar la superficie del disco.

Limpie el disco frecuentemente
Si el cartucho se mancha de polvo o suciedad, límpielo con un paño suave y seco.

Pay attention to where you place discs
Do not place discs in the following places:
• High temperature areas such as in direct sunlight or inside a car.
• The disc will warp and become unusable.
• High humidity areas, e.g. in a bathroom.
• The disc may rust.
• A beach or other sandy area. Sand or dust may get in through the small spaces in the cartridge, causing dirt or scratches on the disc surface.

Clean discs regularly
If dust or dirt gets on the cartridge, wipe it off with a soft, dry cloth.

Fare attenzione ai luoghi nei quali si conservano i dischi
Non posare o lasciare i dischi nei luoghi seguenti:
• In luoghi soggetti ad alta temperatura, quali direttamente sotto i raggi del sole o all'interno di una macchina chiusa, al sole, in estate.
• Il disco può ondularsi e divenire inutilizzabile.
• Il disco può arrugginirsi.
• Su una spiaggia o altri simili luoghi sabbiosi. La sabbia o la polvere possono penetrare all'interno delle piccole aperture del cartucchio e sporcare, o rigare sulla superficie del disco.

Ripulite il disco periodicamente
In caso di presenza di sporco sul disco, pulitelo con un panno morbido ed asciutto.

Riproduzione ad accesso diretto (utilizzando l'unità di telecomando)

- Premendo uno qualunque dei tasti numerici la riproduzione del brano desiderato parte dall'inizio. (Questa funzione non può essere utilizzata durante la riproduzione programmata.)

Reproducción por acceso directo (utilizando la unidad de control remoto)

- El presionar cualquiera de las teclas numéricas iniciará la reproducción desde el principio de la pista deseada. (Esta función no puede ser usada durante la reproducción programada.)

Direct access play (using the remote control unit)

- Pressing any of the numeric keys will start play from the beginning of the designated track. (This function cannot be used during programmed play.)

• To change the track during playback
Press the numeric keys corresponding to the desired track. The selected track is indicated in the display window and playback starts from the beginning of the track.

• Para cambiar de canción durante la reproducción
Presione los botones numéricos correspondientes a la canción deseada. El número de canción seleccionado se mostrará en el visualizador y la reproducción comenzará a partir del principio de esa canción.

Reproduction programmed (utilizando la unidad de control remoto)

- Up to 32 tracks can be programmed to be played in any desired order. The total playing time of the programmed tracks is displayed (up to 149 minutes, 59 seconds) in the display window.
- Es posible programar un máximo de 32 pistas para reproducción en el orden deseado. La unidad indicará el tiempo total de reproducción de las pistas programadas (máximo de 149 minutos, 59 segundos).

Reproduzione programmata (utilizzando l'unità di telecomando)

- Fino a 32 brani possono essere programati in qualsiasi ordine riproducibili in qualsiasi ordine desiderato. L'unità indicherà il tempo totale di riproduzione dei brani programmati viene visualizzato (fino a 149 minuti e 59 secondi).

Para confirmar los detalles de un programa...
En el modo de parada

Visualizzati nell'ordine, a partire dal primo brano programmato.

Para confirmar los detalles de un programa...
En el modo de parada

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En el modo de parada

Visualizzati nell'ordine, a partire dal primo brano programmato.

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- Up to 32 tracks can be programmed to be played in any desired order. The total playing time of the programmed tracks is displayed (up to 149 minutes, 59 seconds) in the display window.
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Reproduzione programmata (utilizzando l'unità di telecomando)

- Fino a 32 brani possono essere programati in qualsiasi ordine riproducibili in qualsiasi ordine desiderato. L'unità indicherà il tempo totale di riproduzione dei brani programmati viene visualizzato (fino a 149 minuti e 59 secondi).

Para confirmar los detalles de un programa...
En el modo de parada

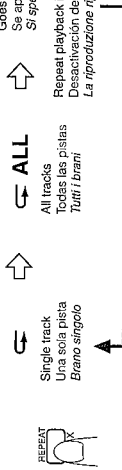
Visualizzati nell'ordine, a partire dal primo brano programmato.

Para confirmar los detalles de un programa...
En el modo de parada

Visualizzati nell'ordine, a partire dal primo brano programmato.

RECORDING MDS GRABACION DE MINIDISCOS REGISTRAZIONE SUI MINIDISCHI

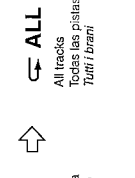
Repeat play (using the remote control unit)
Each time the REPEAT button is pressed, the display changes in the following order:



Riproduzione ripetuta (utilizzando l'unità di telecomando)
Ad ogni successiva pressione del tasto REPEAT, le indicazioni cambiano nell'ordine seguente:

Goes off.
Se spegne.
Si spegne.

Repetición de reproducción (utilizando la unidad de control remoto)
Cada vez que se presiona el botón REPEAT, la visualización cambiará en el orden siguiente:



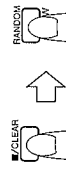
When the ►/III button is pressed, repeat play starts.
• Single track repeat (≡) The tracks shown in the display will be played repeatedly.
• All tracks repeat (≡ ALL) All programmed tracks will be played when repeat play is selected during random play, random play of all tracks will be repeated.

Note:
• Single track repeat or all tracks repeat only function during playback. During recording, the tracks shown in the display will be repeated when the repeat mode is displayed. When the repeat mode is not being used, release it.

Quando si preme il ►/III la ripetición de reproducción se reanuda.
• Repetición de una sola pista (≡) La pista actual o la especificada será reproducida repetidamente.
• Repetición de todas las pista de un CD (≡ ALL) Todas las pistas del CD especificado serán reproducidas repetidamente. Cuando se selecciona la reproducción repetida durante la reproducción aleatoria, se repetirá la reproducción aleatoria de todas las canciones.

Note:
• La repetición de una sola pista o de todas las pista solo funciona durante la reproducción. La repetición de reproducción se activará durante la grabación aunque el modo de reproducción aleatoria, si no usa el modo de repetición, pasará a un modo de repetición, desactiva.

Random play (using the remote control unit)
First press the CLEAR button then, press the RANDOM button. "RANDOM" appears in the display window. After playing all tracks in random order, playback stops and the random play mode is automatically cancelled.



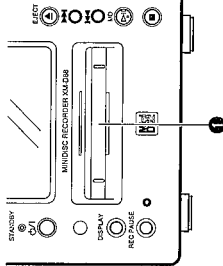
Note:
• Do not set the unit near another radio or TV. When listening to an MD near a radio or TV, interference may occur and the TV picture may be distorted. Keep the unit away from them.

Note:
• No coloque la unidad cerca de otro aparato de radio ni de un televisor. Cuando escuche un minidisco cerca de un aparato de radio o televisor, podrán ocurrir interferencias y la imagen de la televisión se distorsionará. Mantenga esta unidad alejada de estos aparatos.

Note:
• Non posizionare l'apparecchio nelle vicinanze di un altro apparecchio radio o di un televisore. L'ascolto di un minidisco nelle vicinanze di un apparecchio di radio o televisore, può provocare interferenze nella ricezione e distorcere l'immagine TV, che possono risultare distorte. Tenere l'apparecchio per minidischi lontano da radio e televisori.

Recording with the CD player
The CD player starts playback when the MD recorder enters the recording mode.
• It is not necessary to set the recording level. (Digital recording)

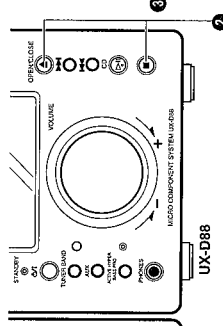
Operate in the order shown



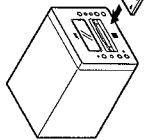
1 Load a recordable MD.
• When an MD is loaded with the label side facing up, the power is switched on and the MD is inserted automatically.
• When the recording level is indicated, [BLANK DISC] is indicated in the display after the "Reading" indication goes out.

Grabación sincronizada con el reproductor de CD
El reproductor de CD inicia la reproducción cuando el grabador MD ingresa en el modo de grabación.
• No es necesario ajustar el nivel de grabación. (Grabación digital)

Operate in the order shown



1 Cargue un minidisco grabable.
• Cuando se inserte un minidisco con la cara de la etiqueta hacia arriba, la alimentación se conectará y el disco se insertará automáticamente.
• Cuando cargue un disco que no esté grabado, en el visualizador se mostrará [BLANK DISC].



The label side facing up
Con la cara de la etiqueta hacia arriba
Lato etichettato rivolto verso l'alto

2 Load a CD and set the function to [CD] (on the UX-D88).

2 Cargue un disco compacto y ponga la función en [CD] (en la unidad UX-D88).

2 Inserire un compact disc e predisporre la funzione su [CD] (sull'UX-D88).

3 Press the CD ► MD button for more than 2 seconds while pressing the SHIFT button on the remote control unit. Recording starts.
• Close the CD player.
• Cierre el reproductor de discos compactos.
• Richiudere il lettore CD.

3 Presione el botón CD ► MD durante más de 2 segundos al mismo tiempo que presiona el botón SHIFT en el mando a distancia. Comenzará la grabación.
• Cierre el reproductor de discos compactos.
• Richiudere il lettore CD.

3 Tenendo premuto il tasto SHIFT del telecomando premere il tasto CD ► MD per oltre 2 secondi. La registrazione ha inizio.

4 Press the REC PAUSE button for more than 2 seconds while pressing the SHIFT button on the remote control unit. Recording starts.

4 Presione el botón REC PAUSE se enciende, entre las canciones se insertan secciones sin grabar de 4 segundos aproximadamente.

4 L'indicazione di pausa della registrazione REC PAUSE si illumina. Nelle canzoni, fra un brano e l'altro vengono inseriti automaticamente degli spazi non registrati di circa 4 secondi.

5 When pressing the SHIFT button...
• Quando si preme il tasto SHIFT...
• Premendo il tasto SHIFT...

5 Quando si preme il tasto SHIFT...
• Quando si preme il tasto SHIFT...
• Premendo il tasto SHIFT...

5 Tenendo premuto il tasto SHIFT del telecomando premere il tasto CD ► MD per oltre 2 secondi. La registrazione ha inizio.

6 The REC PAUSE indicator lights.
• Non-recorded sections of approx. 4 seconds are automatically inserted between tracks.

6 El indicador REC PAUSE se enciende.
• Entre las canciones se insertan secciones sin grabar de 4 segundos aproximadamente.

6 L'indicazione di pausa della registrazione REC PAUSE si illumina. Nelle canzoni, fra un brano e l'altro vengono inseriti automaticamente degli spazi non registrati di circa 4 secondi.

- The CD is recorded in the form of digital signals.
- When the one track changes, the track mark is automatically set and the track number changes.

- Point the remote control unit at the remote sensors on this unit and on the UX-D88 and operate it.

- To confirm the remaining time (Remain)
- Use the DISPLAY button on the unit or on the remote control. Each time the button is pressed, the display changes as follows.



- When finishing recording all tracks... and [UTOC Writing] appears in the display, then the unit stops automatically.
- To stop recording in the middle Press the [STOP] button on the MD recorder and the stop [] button on the CD receiver of the UX-D88. [UTOC Writing] is displayed, then the recording is released.

Notes:

- When recording only desired tracks, program them on the UX-D88.
- The unit can locate the end of recording on the MD, allowing you to start recording quickly. When re-recording an entire disc, first erase all tracks using ALL ERASE.
- When [SYNCHRO REC ERROR] is displayed... The UX-D88 is not set to [CD] or the synchro recording was started while the CD was from the beginning. [] button and redo the steps from the beginning.
- When [DIGITAL IN UNLOCK] is displayed... The optical digital cable is not connected. See page 6 to connect it correctly.
- When the erasure prevention tab is open, recording cannot be done. (See page 14.)

Making analog recordings of CDs...

1. Using the optical digital cable.
2. Load a CD and set the function to [CD] (on the UX-D88).
3. Press the REC PAUSE button.
4. Press the MD > II button on the UX-D88.
5. Press the CD > II button on the UX-D88.

- La grabación de los discos compactos se hace en forma de señales digitales.
- Cuando cambia la canción, se coloca automáticamente la marca de canción y cambia el número de canción.

- Apunte el mando a distancia hacia los sensores remotos de esta unidad y al UX-D88 para operarlos.

- Para confirmar el tiempo restante (Remain)
- Utilice el botón DISPLAY de la unidad o del mando a distancia. Cada vez que se presione, la visualización cambiará de la forma siguiente:



- Después de grabar todas las pistas... Se abre un espacio sin grabar de 20 segundos aprox. y [UTOC Writing] aparece en la indicación y la unidad para automáticamente.
- Para parar sin haber finalizado la grabación Presione el botón [] en la unidad y el botón [] en el receptor de discos compactos de la unidad UX-D88. Se mostrará [UTOC Writing] y luego la grabación se cancelará.

Notes:

- Para grabar pistas deseadas programar en la unidad UX-D88.
- La unidad puede localizar el final de grabación en el MD, permitiéndole comenzar rápidamente la grabación.
- Para grabar un disco completo, primero borre todas las pistas empleando ALL ERASE.
- Cuando se muestre [SYNCHRO REC ERROR]... La unidad UX-D88 no está puesta en [CD] o se habrá comenzado la grabación sincronizada mientras se estaba reproduciendo el disco comparado. Presione el botón [] y vuelva a intentar la grabación.
- Cuando se muestre [DIGITAL IN UNLOCK]... El cable óptico digital no ha sido conectado. Consulte la página 6 para conectarlo correctamente.
- Cuando la lengüeta de prevención de borrado está abierta no se puede grabar. (Consulte la página 14.)

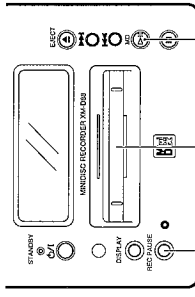
Para efectuar grabaciones analógicas de CD...

1. Desenchufe el cable digital óptico.
2. Coloque un CD y ajuste la función en [CD] (en el UX-D88).
3. Presione el botón REC PAUSE.
4. Presione el botón MD > II en la unidad UX-D88.
5. Presione el botón CD > II en la unidad UX-D88.

Recording a radio broadcast or tape sound

- It is not necessary to adjust the recording level.

Operate in the order shown



- 1 Load a recordable MD.
- Insert the MD with the label side facing up.
- When a blank MD is loaded [BLANK-DISC] is indicated in the display.
- Select the desired source to be recorded. (On the UX-D88.)



- Recording a radio broadcast
- Grabación de una radiodifusión
- Registrazione di una trasmissione radio

- 3 Press the REC PAUSE button. STANDBY
- Example: To record a radio broadcast.

REC PAUSE



The indicator lights.

L'indicazione si illumina.

MD

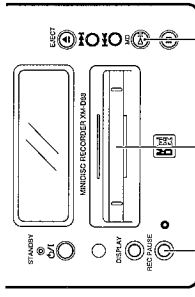


- To set a track number (track mark)
- During the recording of a radio broadcast, track number (track mark) can be assigned each time the song changes by pressing the SET button on the remote control unit. After recording is complete, the tracks can be rearranged using the editing functions. (See page 21.)
- When recording from a radio broadcast or a tape, track marks will be set when there is a change in the song. The interval between seconds, or if there is a lot of noise between songs, the track marks may not be assigned.

Grabación de una radiodifusión o cinta

- No es necesario ajustar el nivel de grabación.

Operar en el orden mostrado



- 3 Cargue un minidisco grabable.
- Inserte un minidisco con la cara de la etiqueta hacia arriba. El disco que no está grabado, en el visualizador se mostrará [BLANK-DISC].
- Seleccione la fuente de la que desea grabar. (En la unidad UX-D88.)



- Recording a tape sound
- Grabación de una radiodifusión
- Registrazione di una trasmissione radio

- 3 Presione el botón REC PAUSE. STANDBY
- Ejemplo: Para grabar una radiodifusión.

REC PAUSE



The indicator lights.

L'indicazione si illumina.

MD

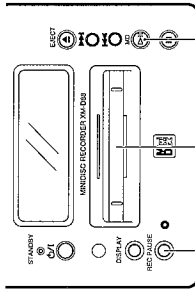


- Para poner un número de canción (marca de canción)
- Durante la grabación de una radiodifusión, puede asignarse un número de canción (marca de canción) cada vez que cambia la canción presionando el botón SET del mando a distancia. Una vez completada la grabación, las canciones pueden ser reordenadas usando las funciones de edición. (Consulte la página 21.)
- Cuando graba de una grabación o una cinta, se colocarán marcas de canción en cualquier espacio sin grabar de 3 segundos o más. Sin embargo, si el intervalo entre canciones es inferior a 3 segundos, o si entre las canciones hay mucho ruido, las marcas de canción podrían no asignarse.

Registrazione da una trasmissione radio o da un nastro

- Non è necessario procedere alla regolazione del livello di registrazione.

Eseguire le operazioni nell'ordine indicato



- 3 Inserire un minidisco sul quale la registrazione è possibile.
- Inserire un minidisco con il lato etichettato rivolto verso l'alto.
- Inserendo un minidisco vergine, sul quadrante compare l'indicazione [BLANK-DISC] ("disco vergine").
- Selezionare (sull'UX-D88) la sorgente sonora desiderata per la registrazione.



- Recording a tape sound
- Grabación de una radiodifusión
- Registrazione di una trasmissione radio

- 3 Premere il tasto REC PAUSE. STANDBY
- Esempio: Registrazione di una trasmissione radio.

REC PAUSE



The indicator lights.

L'indicazione si illumina.

MD



- Designazione di un numero di brano (contrassegno del brano)
- Nel corso della registrazione di una trasmissione radio, il numero del brano (contrassegno del brano) può venire assegnato ad ogni passaggio ad un nuovo brano, premendo il tasto SET del telecomando. Una volta completata la registrazione, le canzoni possono essere riaranzate usando le funzioni di montaggio. (Vedere a pag. 21.)
- In caso di registrazione di una trasmissione radio o da un nastro, i contrassegni dei brani vengono automaticamente inseriti ogni volta che si incontra uno spazio di silenzio di 3 o più secondi. Nel caso in cui, però, tale intervallo sia inferiore a 3 secondi, o se tale intervallo risulta molto disturbato, può succedere che i contrassegni non vengano assegnati.

- **To stop recording temporarily**
To stop recording from the radio temporarily, press the REC PAUSE button. The track number increases by 1. Press the MD > II button to continue recording.
- **To erase recorded tracks**
Press the ■ button (UTOC Writing) is displayed, and the recording is released.
- **To erase recorded tracks**
MDs are different from cassette tapes, etc. in that they cannot erase existing tracks during recording. Re-recording can only be done after erasing tracks using ERASE or ALL ERASE.

- Notes:**
- To set to STANDBY on the remote control unit, Press the ■ button. When ► III is pressed again, recording starts.
 - To record from the beginning of the tape...
1. Start the function to "TAPE" on the UX-D88.
 - Press the > button on the UX-D88 to play the tape.

**EDITING MDs
(with the remote control unit)**

Aside from being played back and recorded on, MDs can also be edited. In a variety of ways. Any recorded tracks can be joined, divided, or erased.

- **Track mark:**
Used to mark the beginning of a track during playback. The space between each mark is called a track, and each track is numbered in the order played. This is called a track number.

Joining two tracks into one (JOIN)

- Removes a track mark and joins the two adjacent tracks to form one track.

- **Para parar la grabación temporalmente**
Para parar la grabación de la radio temporalmente, presione el botón REC PAUSE. El número de canción aumentará en uno. Para reanudar la grabación presione el botón MD > II.
- **Para borrar las pistas grabadas**
Presione el botón ■. Se mostrará [UTOC Writing] y la grabación se cancelará. Los MD son diferentes de las cintas casette, etc. ya que en las mismas no se pueden borrar las pistas existentes durante la grabación. La grabación sólo puede ser realizada después de borrar las pistas empinando ERASE o ALL ERASE.

Notes:

- Para poner en STANDBY con el mando a distancia.
Presione el botón ■. La grabación se reanuda cuando vuelva a presionar el botón ► III.
- Para grabar desde el principio de una cinta...
1. Ponga la unidad UX-D88 en la función "TAPE".
- Presione el botón > de la unidad UX-D88 y reproduzca la cinta.

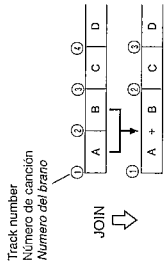
**EDICION DE MINIDISCOS
(con el mando a distancia)**

Además de poderlos reproducir y grabar, los minidiscos también pueden ser editados de diversas formas. Todas las canciones grabadas pueden ser unidas, divididas o borradas.

- **Marca de canción:**
Se utiliza para marcar el inicio de una canción durante la reproducción. El espacio entre dos marcas se llama canción, y cada canción se enumera en el orden de su reproducción. Esto se llama número de canción.

Unión de dos canciones en una sola (JOIN)

- Quite la marca de canción y junte las dos canciones adyacentes para formar una sola.



- **Arresto temporaneo della registrazione**
Per arrestare temporaneamente la registrazione premere il tasto REC PAUSE. Il numero dei brani aumenterà di 1. Per riprendere la registrazione premere di nuovo lo stesso tasto MD > II.
- **Arresto della registrazione in corso**
Premere il tasto di arresto ■ sul quadrante comparsa il messaggio [UTOC Writing], e la registrazione si interrompe.
- **Cancellazione dei brani registrati**
I minidisc differiscono dalle nastrocassette nel senso che a una registrazione non si sovrappone ad una preesistente. Una nuova registrazione, quindi, può essere effettuata solamente dopo aver cancellato l'esistente. Per mezzo della funzione ERASE o ALL ERASE.

Note:

- **Predisposizione della modalità di attesa (STANDBY) per mezzo del telecomando.**
Premere il tasto ■. Il premendo di nuovo il tasto ► III, la registrazione si avvia.
- **Registrazione dall'inizio del nastro...**
1. Predisporre l'UX-D88 sulla funzione "TAPE".
- **Avviare la registrazione.**
2. Premere il tasto > dell'UX-D88 per avviare la riproduzione del nastro.

**ELABORAZIONE TRAMITE
TELECOMANDO**

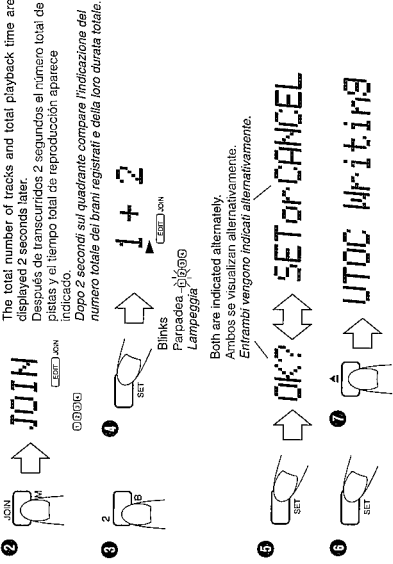
Il contenuto dei minidisc, oltre che poter essere riprodotto, o venivri registrato, può essere modificato ed elaborato in tutta una serie di diverse modalità. I brani registrati possono essere congiunti, separati, spostati o cancellati.

- **Contrassegno del brano:**
Usato per contrassegnare l'inizio di un brano durante la riproduzione. Lo spazio fra un contrassegno e l'altro viene chiamato "brano", e ogni "brano" viene numerato nell'ordine di riproduzione. Questo numero progressivo viene chiamato "numero del brano".

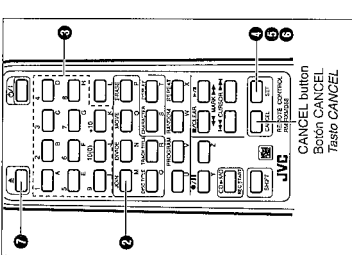
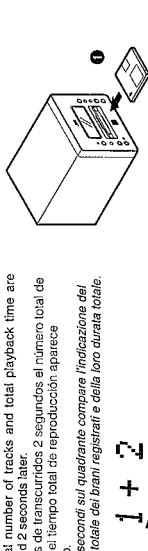
Combinazione di due brani in uno solo (JOIN)

- Eliminazione di un contrassegno di un brano per combinare due brani adiacenti a formare uno solo.

Operate in the order shown



Opere en el orden mostrado




1. Load the MD to be edited.
The total number of tracks and total playback time are displayed.
2. Set to the proper editing mode (JOIN).
Select the desired tracks to be joined.
Example: To join the 2nd and 1st tracks together to make a single track.
The track can be joined to the previous track. (It can also be selected with the < CURSOR > buttons.)
3. Press the SET button.
(Press the SET button.)
4. Press the SET button.
(Press the SET button.)
5. Press the SET button.
(Press the SET button.)
6. Press the SET button.
(Press the SET button.)
7. Press the SET button.
(Press the SET button.)

Notes:

- If you choose the wrong track in Step 2, the track number will be displayed in the numeric keys before pressing the SET button.
- To stop JOIN in the middle, Press the JOIN button again.

1. Tasto di cancellazione.
Viene visualizzato il numero totale dei brani ed il tempo totale di riproduzione.
2. Predisporre la modalità di elaborazione desiderata (in questo caso JOIN).
3. Selezione dei brani che si vogliono congiungere.
Esempio: Combinazione dei brani numero 2 e 1 per costituire uno solo.
Il brano può anche essere selezionato per mezzo dei tasti < CURSOR >.
4. Premere il tasto SET.
(Il brano può anche essere selezionato per mezzo dei tasti < CURSOR >.)
5. Premere il tasto SET.
(Per disattivare la modalità JOIN agire sul tasto CANCEL.)
6. Premere il tasto SET.
(Il brano può anche essere selezionato per mezzo dei tasti < CURSOR >.)
7. Premere il tasto SET.
(Per disattivare la modalità JOIN agire sul tasto CANCEL.)

- Notes:**
- Se si sceglie la traccia sbagliata al passo 2, il numero della traccia viene visualizzato nelle chiavi numeriche prima di premere il tasto SET.
 - Per interrompere l'esecuzione della funzione JOIN...
Premere il tasto JOIN una o due volte.

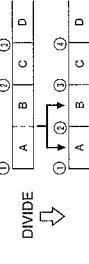
- After pressing the CANCEL button... Press the /CLEAR button to stop playback.
- Be careful not to shake the unit or unplug its power cord while "UTOC Writing" appears in the display, or the MD may become unplayable.

TOC: abbreviation of Table of Contents

Stores information about what is on the disc. It is similar to the table of contents in a book.

Dividing up each song (DIVIDE)

- Adds a track mark at positions in the middle of the tracks and at the beginning of tracks.



Operate in the order shown

$$\frac{2}{\text{DIVIDE}} \rightarrow \text{ENTER} \rightarrow \text{ENTER}$$



Elapsed time display (up to 0.3 seconds)
Visualización del tiempo transcurrido (hasta 0.3 segundos)
Visualizzazione del tempo trascorso (fino a 0.3 secondi)

- 1 Load the MD to be edited. The total number of tracks and total playback time are displayed.
- 2 Set to the proper editing mode (DIVIDE).
- 3 Play the track to be divided. Example: To divide the 3rd track, "3" blinks and the 3rd track is played. Press the SET button at the desired point for division.
- 4 A track mark is added and the track number increases by one. Playback is repeated from that point for 4 seconds.

- The track mark position can be moved using the rehearsal function.

I use the following buttons:

Use the following buttons:

Utilice los botones siguientes:

Usare i seguenti tasti:

The position of the added track mark can
La posición de la marca de canción añadida
marca de canción.

La posizione del contrassegno che è stato la riproduzione di una sezione di 4 secondi

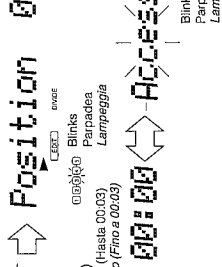
- Después de presionar el botón CANCEL.... Presione el botón **■**/CLEAR para para la reproducción.
- Tenga cuidado de no mover la unidad o desenchufar el cable de alimentación mientras "JOTC Writing" esté mostrado en el visualizador, o el minidisco podrá quedar inutilizable.
- **TOC.** Abreviatura de Índice del usuario. Almacena la información del contenido del disco. Es parecido al índice de un libro.

División de canciones (DIVIDE)

- Se añaden marcas de canción en el principio y en el medio de las canciones para dividir las.

Opere en el orden mostrado

EASE PLAY] is displayed 2 seconds later.
EASE PLAY] se muestra 2 segundos después.
oo 2 secondi suldurante compare l'indicazione
EASE PLAY].



- 1 Cargue el minidisco a editar.
- 2 Aparece indicado el número total de pistas y el tiempo total de reproducción.
- 3 Ajuste el modo de edición apropiado (DIVIDE).
- 4 Reproduce la canción a dividir.
- 5 Ejemplo: Para dividir la tercera canción. Párasele a "3", y se reproducirá la "3ª" canción.
- 6 Presione el botón SET en el punto donde desee hacer la división.
 - Se añadirá una marca de canción y el número de canciones aumentará en uno.
- 7 La canción se repite durante 4 segundos a partir de ese punto.

- La posición de la marca de canción puede moverse usando la función de ajuste.

The adjustment range is about 8 seconds before
El margen de ajuste es de unos 8 segundos
(-128~128).

La gamma di regolabilità del contrassegno e la posizione iniziale del contrassegno del brano

removed. 4 seconds of playback is executed repeatedly. The procedure is repeated. The procedure is repeated.

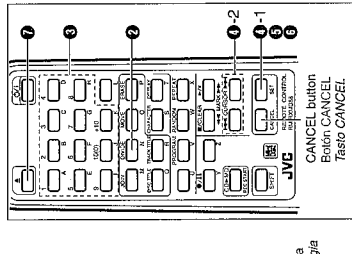
...into può essere spostata. Dalla posizione del continente si può essere spostata. Se riprodurranno ripetutamente se ne sposterà. Se riprodurranno ripetutamente se ne sposterà.

- **Dopo aver premuto il tasto CANCEL...**
- **Arrestare la riproduzione premere il tasto**
- **✓/CLEAR.**
- **Fare attenzione a non scuotere l'apparecchio e a non staccarne il cavo di alimentazione mentre sul quadrante è presente il messaggio "UTC Writing" ("iscrizione in corso sulla tabella dei contenuti"), perché il minidisco può risultare poi non riproducibile.**
- **TCC: acronimo di "Table Of Contents" ("tabella dei contenuti" cioè "indice"). Memorizza l'informazione.**

Divisione di un brano
separati (DIVIDE)

- Aggiunta di un contrassegno di un brano nel mezzo o all'inizio dei brani stessi, per suddividere ulteriormente i brani.

Eseguire le operazioni nell'ordine indicato



- 1 Inserire l'indice sul quale si vuole operare. Viene visualizzato il numero totale dei brani ed il tempo totale di riproduzione.
- 2 Presidiore la modalità di elaborazione desiderata (in questo caso **DIVIDE**). Riprodurre il brano che si vuole dividere. Esempio: Suddivisione del brano numero 3.
- 3 Il numero "3" si mette a lampeggiare e il brano numero 3 viene riprodotto.
- 4 Al punto esatto in cui si vuole effettuare la divisione premere il tasto **SET**.
 - Viene aggiunto un contrassegno di brano ed il numero totale dei brani aumenta di una unità per 4 secondi.

- La posizione del contrassegno del brano può essere modificata per mezzo della funzione di prova.

and after the initial track mark position (-128~128).

circa 8 secondi nelle due direzioni rispetto alla
128 ~ 128).

from the track mark position.

segno del brano viene eseguita ripetutamente

24

23

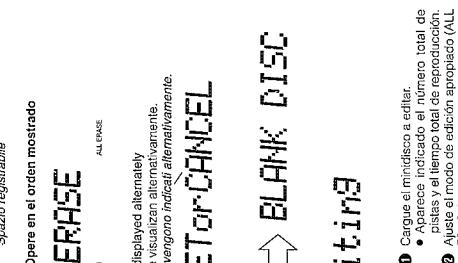
- Notes:** Once a recording has been erased, they may be re-recorded. To avoid accidental erasure of important recordings, slide onto the ensure prevention tab. If you choose the wrong track in Step 3, enter the correct track using the numeric keys before pressing the SET button.
- To stop a recording in the middle press the **ERASE** button.
- After pressing the **CANCEL** button, Press the **■** (CLEAR) button to stop playback. Be careful not to shake the unit or unplug its power cord while "UTOC Winding" appears in the display, or the MD may become unplayable.
- Erasing all the tracks on a disc
(ALL ERASE)**

Allows the entire track to be erased without having to re-record.

- Tenga cuidado de no mover la unidad o desenchufar el cable de alimentación mientras reproduce.

Borrado de todas las canciones de un disco (ALL ERASE)

Espacio grabable
Scenário sustentável



- Presione el botón S/LI. (Presione el botón CANCEL para salir de la función ALL ERASE.)
- Presione el botón SET.
- [T/C] is displayed, and all tracks are Se muestra [T/C], y se borran todas las pistas. Los cambios se registrarán en la memoria IC.
- Expulse el minidisco. ➡ Se cancela el modo de edición.
- Después de visualizarse "UTOC Writing", el minidisco es expulsado.
- El contenido de la memoria IC se registra en el minidisco.

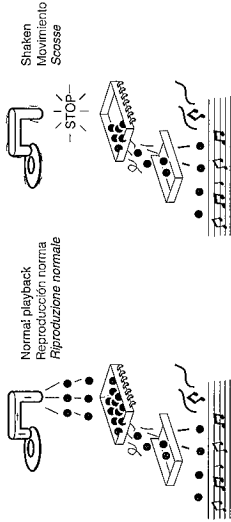
Playback-only MD
This is the type used for commercially-available pre-recorded MDs, on which recording cannot be done. Like a CD, data is recorded based on the presence or absence of small indentations called pits. A disc recorded with this format is called an optical disc.



Playback-only MD
Minidisco de reproducción solamente
Minidisco per sola riproduzione

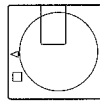
Minidiscs de reproducción solamente
Este tipo se emplea para los minidiscos que se venden grabados, y en los cuales no se puede grabar. Al igual que un disco compacto, los datos se graban según la presencia o ausencia de pequeñas mellas llamadas "huecos". Los discos grabados en este formato se llaman discos ópticos.

Sound skip guard memory
With the minidisc, the data of the track being played can be temporarily stored up using a function called "sound skip guard memory". Even when data cannot be collected properly from the disc due to shaking or vibrations, information is stored in the "sound skip guard memory" so that there is no break in the sound which is actually delivered.



Memoria de conservación de los sonidos saltati
Nel minidisc, i dati del brano in corso di ascolto possono essere temporaneamente memorizzati per mezzo di una funzione chiamata "Memoria di conservazione dei suoni saltati". Anche nel caso i cui i dati non possono essere individuati correttamente sul minidisco a causa di vibrazioni o scosse, l'informazione stessa viene memorizzata in questa memoria di conservazione dei suoni saltati, in modo che non si verifichi alcun salto nel suono che viene effettivamente emesso dall'apparecchio.

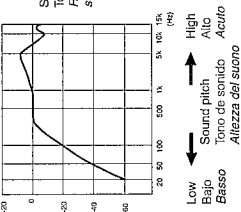
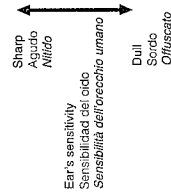
Recordable MD
These are the so-called "blank" MDs you can use to record your own recordings. Data is recorded by magnetism, which is easily processed so that recording can be done again and again. By using a laser to heat the disc, the magnetism is erased and the magnetic head records the new data. Discs with this type of recording method are called magneto-optical (MO) discs.



Recordable MD
Minidisco grababile
Minidisco registrabile

Minidiscs registrabili
Si tratta di minidiscs cosiddetti "vergini", utilizzabili per le proprie registrazioni. I dati vengono registrati magneticamente. Il processo è molto semplice e consente di effettuare registrazioni su registrazioni, senza scadimento di qualità. Usando un laser per riscaldare il disco la precedente registrazione magnetica viene cancellata, e la testina magnetica procede alla registrazione dei nuovi dati. I dischi così ottenuti con questo tipo di registrazione magnetica sono chiamati dischi magnetico-ottici (MO).

ATRAC (Adaptive Transform Acoustic Coding)
Within recordings, there are sounds which cannot be readily heard. For example, as the volume decreases, high-pitched sounds and low-pitched sounds become difficult to hear. Also, if a quiet sound comes at the same time as or just after a loud sound, it will not be heard. The technology called ATRAC (Adaptive Transform Acoustic Coding) which selectively chooses sounds based on human sense of hearing characteristics. With this technology, the recorded data is about one-fifth the volume of the original data, allowing it to fit on a compact minidisc.

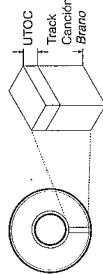


ATRAC (Adaptive Transform Acoustic Coding)
Dentro de las grabaciones hay sonidos inaudibles para el oído humano. Por ejemplo, al disminuir el volumen, los sonidos de tono alto y de tono bajo resultan difíciles de escuchar. Además, si un sonido bajo llega al mismo tiempo o justo después de un sonido alto, el sonido bajo no se oirá. Con los minidiscos los datos se graban seleccionando únicamente los sonidos que el oído humano puede oír. La tecnología denominada ATRAC (Codificación adaptativa de transformación acústica) que elige selectivamente los sonidos de acuerdo con las características auditivas del oído humano. Con esta tecnología, los datos grabados ocupan aproximadamente una quinta parte del volumen de los datos originales, permitiendo que puedan entrar en un minidisco compacto.

ATRAC (Adaptive Transform Acoustic Coding = Codificación adaptativa de transformación acústica)
Nelle registrazioni vi sono dei suoni che non possono venire facilmente percepiti. Ad esempio, con la diminuzione del volume i suoni ad alta frequenza e quelli a bassa frequenza divengono difficili da udire. Inoltre, un suono basso che arriva allo stesso tempo o subito dopo un suono alto, non viene udito. Con i minidiscs i dati vengono registrati scegliendo solo i suoni che l'orecchio umano può percepire. La tecnologia denominata ATRAC (Adaptive Transform Acoustic Coding = Codificazione adattiva di trasformazione acustica) che seleziona i suoni sulla base delle caratteristiche di percezione dell'udito umano. Con questa tecnologia, i dati registrati occupano solamente circa un quinto del volume dei dati originali, consentendo di contenuti in un piccolo minidisco.

Sound pitch and the ear's sensitivity
Tono de sonido y sensibilidad del oído
Relazione fra l'altezza del suono e la sensibilità dell'orecchio umano

UTOC (User Table Of Contents)
In a minidisc, apart from the recorded tracks, there is the "UTOC". In this area, information such as the position where each track is recorded, the track divisions, and track order are recorded. When the minidisc is played, the UTOC is consulted and the tracks which are found and played back. When editing is done, only the UTOC is changed, so there is no need to re-record the tracks.



CONTENTS	INDICE
1. This track P.5	1. Esta canción P.5
2. That track P.6	2. Esa canción P.6
3. The other track P.10	3. La otra canción P.10

UTOC (Tabella del contenuto ad uso dell'utente)
In un minidisco, oltre i brani registrati, esiste anche una "Tabella del contenuto" ("indice"). In questa zona del disco vengono registrate informazioni varie quali la posizione di ogni traccia, le divisioni delle tracce, l'ordine di registrazione dei brani. Nel corso della ricerca dei brani, viene consultata questa Tabella, ed i brani vengono rapidamente individuati e riprodotti. Terminata una eventuale elaborazione dei brani del disco, la Tabella UTOC viene opportunamente modificata, e non vi è quindi alcuna necessità di registrare di nuovo i brani.

ERROR MESSAGES OF MINI DISCS

MENSAGGI DI ERROR LOS MINIDISCHI

MESSAGGI DI ERROR DEI MINIDISCHI

Error message Mensaje de error Messaggio di errore	Meaning Significato	Action Solución Contromisure
BLANK DISC	A disc has been inserted with nothing recorded on it. Se ha cargado un disco que no tiene nada grabado. Il disco inserito non contiene alcun dato registrato.	Except when making a new recording, replace the disc with one which has been recorded on. Reemplace el disco por otro grabado, a menos que quiera grabar en él. Quando si desidera registrare, ma per l'ascolto è necessario inserire un disco che contenga qualcosa.
CANNOT JOIN	You have tried to join tracks which cannot be joined. Ha intentado unir canciones que no pueden ser unidas. Si sta tentando di combinare dei brani che non possono essere congiunti.	This is a limitation of the minidisc system. See "Minidisc limitations" on page 33. Esta es una limitación del sistema de minidisco. Consulte "Limitaciones de los minidiscos" en la página 33. "Limitazioni dei minidiscs ha delle limitazioni inerenti al sistema stesso. Vedere in proposito il paragrafo "Limitazioni ai minidiscs", a pag. 33.

Error message Mensaje de error Messaggio di errore	Meaning Significado Significato	Action Solución Contrimisure
DISC ERROR	There is a problem (damage) with the disc. Este es un problema (daño) del minidisco. Problemi (o danni) nel disco.	Replace the disc. Reemplaza el minidisco. Disco inutilizzabile. Sostituilo.
DISC FULL	There is not enough space left on the disc. No hay espacio suficiente en el disco. Hay más de 254 canciones. Non vi è abbastanza spazio rimanente per la registrazione. Il numero di brani ha superato i 254.	Replace the disc with another recordable MD. Reemplaza el minidisco por otro grabable. Per registrare, utilizzare un disco con spazio rimanente sufficiente.
DISC PROTECTED	The disc is in accidental erasure protection mode. El disco está protegido contra el borrado accidental. Il disco si trova in modalità di protezione dalle cancellazioni accidentali	Slide the accidental erasure protection tab. (So that the hole is covered). Desplaza la lengüeta de prevención de borrado accidental. (De forma que el orificio quede cubierto.) Per scorrere la linguetta protettiva in modo che il foro del disco risulti coperto.
EMERGENCY STOP	A malfunction occurred during recording. Ha ocurrido un fallo en el funcionamiento durante la grabación. Si è verificata una qualche disfunzione nel corso della registrazione.	Stop the disc by pressing the ■ button and redo the operation. Pare el disco presionando el botón ■ y repita la operación. Arrestare il disco agendo sul tasto ■ e riflettere l'operazione.
NO DISC	There is no disc in the unit. No hay disco en la unidad. Nessun disco nell'apparecchio.	Insert a disc into the unit. Inserte un disco en la unidad. Provvedere, se del caso.
NON AUDIO CANNOT COPY	You have tried to digitally dub a CD-ROM. Ha intentado copiar digitalmente un CD-ROM. Si sta tentando di copiare digitalmente un CD-ROM.	Stop recording. Pare la grabación. Arrestare la registrazione.
Playback DISC	You have tried to record or edit on a playback-only disc. Ha intentado grabar o editar en un disco de reproducción solamente. Si sta tentando di registrare, o di elaborare il contenuto, di un disco per sola riproduzione.	Replace the disc with a recordable MD. Reemplaza el disco por otro minidisco grabable. Se si vuole registrare, usare un disco adatto allo scopo.
TRACK CANNOT COPY	The track is protected. La canción está protegida. Il brano è protetto.	This unit cannot undo track protection. Undo the protection using the appliance that created it. La unidad no puede desproteger la canción. Desprotejala con el dispositivo con el que la protegí. Questo apparecchio non può disattivare la protezione del brano. La disattivazione deve essere eseguita con lo stesso apparecchio che l'ha attivata.
SCMS CANNOT COPY	You have tried to make a copy of a copy by digital dubbing. Ha intentado hacer una copia de otra copia coplando digitalmente. Si sta tentando di effettuare una copia di una copia di una duplicazione digitale.	Dub using analogue input (LINE IN). Cople utilizando la entrada analógica (LINE IN). Procedere alla duplicazione per mezzo dell'ingresso analogico (LINE IN).
DIGITAL IN UNLOCK	The digital cable is disconnected. El cable digital está desconectado. Il cavo digitale è staccato.	Connect the digital cable securely. Conecte el cable digital firmemente. Collegarlo in modo appropriato.

Mindisc limitations

The mindisc records information in an original format that differs from that of conventional cassette tapes or DATs. Since there are some limitations with this recording format, the following types of conditions may arise. These conditions are not malfunctions.

Acerca de los minidisks

En los minidisks la información se registra en un formato original diferente al empleado en las cintas de cassette normales o en las cintas DAT. Dado que este formato presenta algunas limitaciones, podrán darse los siguiente tipos de condiciones. Estas condiciones no se deben a funcionamiento erróneos.

Note sui minidischi

Il minidisco registra le informazioni secondo un formato originale diverso da quello delle cassette convenzionali o del nastro DAT. Dato che questo formato presenta alcune limitazioni, possono verificarsi le seguenti condizioni, che non sono indice di disfunzione.

Condition Condición Condizione	Cause Causa Causa
"DISC FULL" is displayed, even though the possible recording time is not used up. Se visualiza "DISC FULL" aunque no se ha usado todo el tiempo de grabación posible. Compare il messaggio "DISC FULL" ("disco completo") sebbene il tempo disponibile per la registrazione non sia stato ancora completamente utilizzato.	With the minidisc, there is a maximum number of tracks which can be recorded, regardless of time. More than 254 tracks cannot be recorded on a disc. Con los minidisks, hay un máximo de canciones, que pueden grabarse, independientemente del tiempo de grabación. En un minidisco no se pueden grabar más de 254 canciones. Sul minidisco può essere registrato un numero massimo fisso di brani, indipendentemente dalla loro lunghezza. Il disco non può contenere più di 254 brani.
"DISC FULL" is displayed even though the number of tracks and recording time are not at the limit. Se visualiza "DISC FULL" aunque el número de canciones y el tiempo de grabación no están al límite. Compare il messaggio "DISC FULL" sebbene il numero di brani ed il tempo totale di registrazione risultino ancora al di sotto dei limiti massimi previsti.	When parts of the disc are erased and re-recorded, blank spots are created on the blank areas. During recording, when these divided parts become numerous, the "DISC FULL" message may be displayed. When a part of 8 seconds or less is created by dividing, that track cannot be joined by the JOIN function, and even if it is erased, the remaining usable time on the disc does not increase. Tracks divided into small pieces may be erased and/or fast rewinds is done. Cuando se borran partes o se hacen rewind rápido, se crean espacios en blanco en el disco. Cuando se graba en estos espacios de la grabación, una canción se dividen y se graban en las espacia en blanco. Durante la grabación, cuando hay muchas de estas divisiones, podrá aparecer el mensaje "DISC FULL". Cuando se crea un espacio de 8 segundos o menos con la división, esa canción no puede unirse con la función JOIN, y aunque sea borrada, el tiempo utilizable del disco no aumenta. Cuando se realiza el avance rápido o rebobinado rápido, las canciones divididas en pequeñas piezas podrán ser omitidas. Cancelando dalle parti del disco, e procedendo a nuove registrazioni, sul disco si creano spazi vuoti. Durante la registrazione, quando questi spazi vuoti diventano numerosi, può comparire il messaggio "DISC FULL". Se, quando nel corso di una suddivisione, si creano delle parti di 8 o meno secondi di durata, quel brano non può essere utilizzato per la funzione di combinazione, ed anche se viene cancellato, il tempo totale rimanente disponibile sul disco non aumenta. I brani suddivisi in piccoli pezzetti possono "saltare" nel corso dell'avanzamento o retrocessione veloce.
The amount of recorded time on the disc added to the amount of remaining time falls short of the disc's total possible recording time. La suma del tiempo grabado en el disco más el tiempo restante es más corto que el tiempo de grabación total posible. La somma del tempo registrato sul disco o del tempo rimanente disponibile sul disco è inferiore al tempo totale utile di registrazione del disco.	Minidisks must have at least 2 seconds of continuous space in order to record. For this reason, the actual recording time of discs with a lot of short blank areas becomes shorter. Para poder grabar en los minidisks, éstos deberán tener un espacio libre continuo de al menos 2 segundos. Esta es la razón por la cual se reduce el tiempo de grabación real de los discos con muchos espacios cortos en blanco. Per registrare sul minidisco, è necessario avere almeno 2 secondi di spazio disponibile continuo per poter registrare. Per questo motivo, il tempo totale effettivo di dischi con molti spazi liberi di corta durata diviene più corto.
The sound skips during fast forward or fast rewind. El sonido salta durante el avance rápido o rebobinado rápido. Nel corso dell'avanzamento e della retrocessione veloce il suono "salta".	Minidisks must have at least 2 seconds of continuous space in order to record. For this reason, the actual recording time of discs with a lot of short blank areas becomes shorter.

Rules of Digital Dubbing

The following rules regarding copyright exist for digital dubbing to Minis from CDs or DATs through digital terminals.

SCMS (Serial Copy Management System)

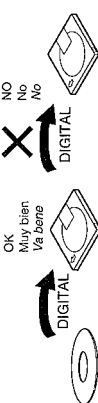
Minidisks can record clear sound with low loss of quality from CDs or DATs through each component's digital input/output terminal. However, minidisks are set up so that a disc recorded in this way cannot be recorded onto other minidisks through digital input/output terminals. In other words, minidisks are set up so that a copy of a copy is called SCMS (Serial Copy Management System). The recorder is designed in compliance with this rule. If you try to make a copy of a copy the error message "SCMS CANNOT COPY" is displayed, and dubbing can not be done.

Reglas para el copiado digital

Para copiar discos compactos o cintas DAT en minidisks por medio de los terminales digitales existen las siguientes reglas que afectan a los derechos de autor.

SCMS (Sistema de control de copiado en serie)

En los minidisks pueden grabarse discos compactos y cintas DAT con un sonido claro y sin pérdida de calidad a través de los terminales de entrada/salida digital de los componentes de cada uno. Sin embargo, los minidisks están concebidos de tal forma que un minidisco grabado de esta manera no puede ser grabado en otro por medio de los terminales de entrada/salida digital. Es decir, están no podrá hacer una copia de una copia. En otras palabras, los minidisks están concebidos de modo que una copia de una copia se llama SCMS (Sistema de control de copiado en serie). El grabador ha sido fabricado en conformidad con esta regla. Si intenta hacer una copia de una copia, se visualizará el mensaje "SCMS CANNOT COPY", y no podrá hacer la copia.



It may be unlawful to record or play back copyrighted material without the consent of the copyright owner.

Puede ser ilegal el grabar o reproducir material con derechos de autor sin el consentimiento del dueño de los mismos.

Notare che la registrazione o la riproduzione di materiali protetti dai diritti d'autore senza il permesso del proprietario di tali diritti potrebbe essere contro la legge.

SPECIFICATIONS

Format	: Minidisc digital audio system
Recording format	: Magnetic modulation overdrive format
Reading format	: Magnetic modulation overdrive format
Recording method	: Contact recording optical semiconductor laser (l = 780 nm)
Sampling frequency	: 44.1 kHz
Compression/expansion method	: ATRAC (Adaptive Transform Acoustic Coding) method
Number of channels	: 2 channels
Frequency characteristics	: 20 Hz to 20,000 Hz (± 1 dB)
Wow/flutter	: Measured limit value or less
Input terminals	: LINE IN, 500 mV/53 dBm — 14.5 dBm
Output terminal	: LINE OUT, 500 mV/53 dBm — 14.5 dBm
Power requirements	: 4.9 kohns
Power consumption	: 10 watts (ON), 1.7 watts (STANDBY)
Dimensions	: (W) x (H) x (D) mm
Weight	: 2.7 kg
Accessories provided	: Remote control unit (RM-RXMD88) x 1 "AA" (15F) batteries x 2 (for the remote control) Optical cord x 1 (RCA) Connect cord x 2 (RCA pin)

* US and foreign patents licensed from Dolby Laboratories Licensing Corporation.

Specifications and appearance are subject to change for improvements without prior notice.

ESPECIFICACIONES

Formato	: Sistema audio digital de minidisks
Formato de grabación	: Sobrescritura por inducción magnética
Formato de lectura	: Método de lectura por contacto con láser semiconductor (l = 780 nm)
Frecuencia de muestreo	: 44.1 kHz
Método de compresión/expansión	: ATRAC (Codificación acústica de transformación adaptable)
Número de canales	: 2 canales
Características de frecuencia	: 20 Hz a 20 000 Hz (± 1 dB)
Fluctuación/ruido: por límite medio o menos	
Terminales de entrada	: LINE IN, 500 mV/53 dBm — 14.5 dBm
Terminal de salida	: LINE OUT, 500 mV/53 dBm — 14.5 dBm
Alimentación	: CA 230 V, 50 Hz
Consumo eléctrico	: 10 vatios (en ON), 1.7 vatios (en STANDBY)
Dimensiones	: 141 (an) x 129 (al) x 260 (prof.) mm
Peso	: 2.7 kg
Accesorios suministrados	: Mando a distancia (RM-RXMD88) x 1 Pilas (formato "AA" (15F)) x 2 (para el mando a distancia) Cable de alimentación x 1 Cables de conexión x 2 (cavilja RCA) Cable digital x 1

* Las patentes EE.UU. y extranjeras han sido otorgadas por Dolby Laboratories Licensing Corporation.

Debido a mejoras, las especificaciones y el diseño están sujetos cambios sin previo aviso.

DATI TECNICI


Formato	: Sistema a minidisco audio digitale
Formato di registrazione	: Sovrascrittura a modulazione magnetica
Formato di lettura	: Lettura ottica senza contatto con laser semiconduttore (l = 780 nm)
Frequenza di campionamento	: 44.1 kHz
Método di compressione ed espansione	: ATRAC (Adaptive Transform Acoustic Coding) con trasformazione a trasformazione
Numero di canali	: 2 canali
Risposta in frequenza	: da 20 a 20,000 Hz (± 1 dB)
Fluttuazioni e rumore: per limite misurabili o inferiori ai limiti misurabili	
Terminali di ingresso	: LINE IN: 500 mV, 53 kohn — 14.5 dBm
Terminali di uscita	: LINE OUT: 500 mV, 4.9 kohn
Alimentazione	: Corrente alternata a 230 volt (CA)
Consumo	: 10 watt (attivo, ON), 1.7 watt (in attesa, STANDBY)
Dimensioni	: 141 (largh.) x 129 (alt.) x 260 (prof.) mm
Peso	: 2.7 kg
Accessori forniti	: Telecomando (RM-RXMD88) x 1 Batterie tipo "AA" (15F) x 2 (per il telecomando) Cavo di alimentazione x 1 Due cavi di collegamento x 2 (con spina RCA) Un cavo ottico digitale x 1

* Brevetti statunitensi e stranieri concessi in licenza dalla Dolby Laboratories Licensing Corporation.

L'aspetto esterno e i dati tecnici possono subire modifiche senza preavviso, per ulteriori miglioramenti del prodotto.

JVC
VICTOR COMPANY OF JAPAN, LIMITED

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Printed in Japan
VNN9325-251

SPECIFICATIONS		ESPECIFICACIONES		DATI TECNICI	
<p>Format Formato</p>		<p>Formato Formato</p>		<p>Formato Formato</p>	
<p>Recording format Formato de grabación</p>		<p>Formato de grabación Formato de grabación</p>		<p>Formato de grabación Formato de grabación</p>	
<p>Reading format Formato de lectura</p>		<p>Formato de lectura Formato de lectura</p>		<p>Formato de lectura Formato de lectura</p>	
<p>Sampling frequency Frecuencia de muestreo</p>		<p>Frecuencia de muestreo Frecuencia de muestreo</p>		<p>Frecuencia de muestreo Frecuencia de muestreo</p>	
<p>Compression method Método de compresión</p>		<p>Método de compresión Método de compresión</p>		<p>Método de compresión Método de compresión</p>	
<p>Number of channels Número de canales</p>		<p>Número de canales Número de canales</p>		<p>Número de canales Número de canales</p>	
<p>Frequency characteristic Característica de frecuencia</p>		<p>Característica de frecuencia Característica de frecuencia</p>		<p>Característica de frecuencia Característica de frecuencia</p>	
<p>Wow/flutter Fluctuación/trémolo</p>		<p>Fluctuación/trémolo Fluctuación/trémolo</p>		<p>Fluctuación/trémolo Fluctuación/trémolo</p>	
<p>Input terminals Terminales de entrada</p>		<p>Terminales de entrada Terminales de entrada</p>		<p>Terminales de entrada Terminales de entrada</p>	
<p>Output terminal Terminal de salida</p>		<p>Terminal de salida Terminal de salida</p>		<p>Terminal de salida Terminal de salida</p>	
<p>Power requirements Requisitos de potencia</p>		<p>Requisitos de potencia Requisitos de potencia</p>		<p>Requisitos de potencia Requisitos de potencia</p>	
<p>Power consumption Consumo</p>		<p>Consumo Consumo</p>		<p>Consumo Consumo</p>	
<p>Dimensions Dimensiones</p>		<p>Dimensiones Dimensiones</p>		<p>Dimensiones Dimensiones</p>	
<p>Weight Peso</p>		<p>Peso Peso</p>		<p>Peso Peso</p>	
<p>Accessories provided Accesorios suministrados</p>		<p>Accesorios suministrados Accesorios suministrados</p>		<p>Accesorios forniti Accesorios forniti</p>	



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—MEMO—

Location of Main Part

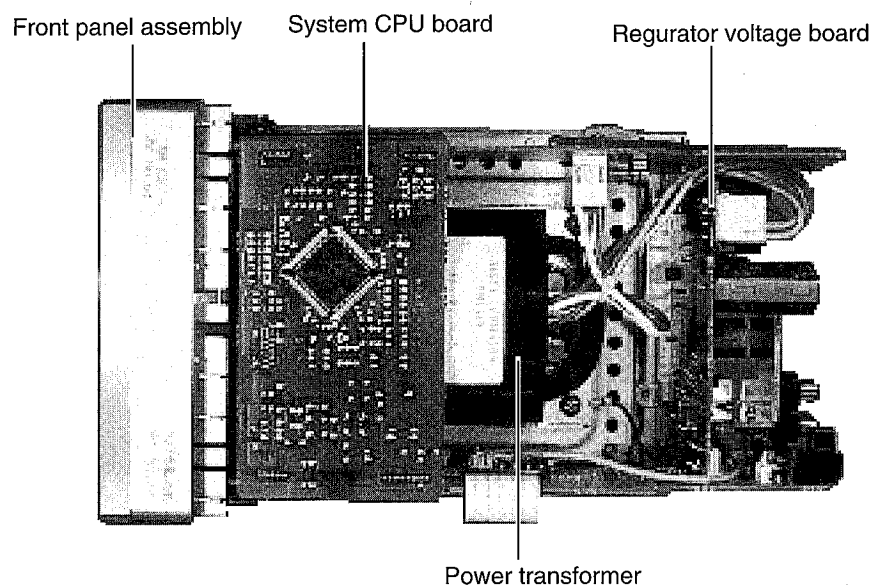


Fig. 2-1

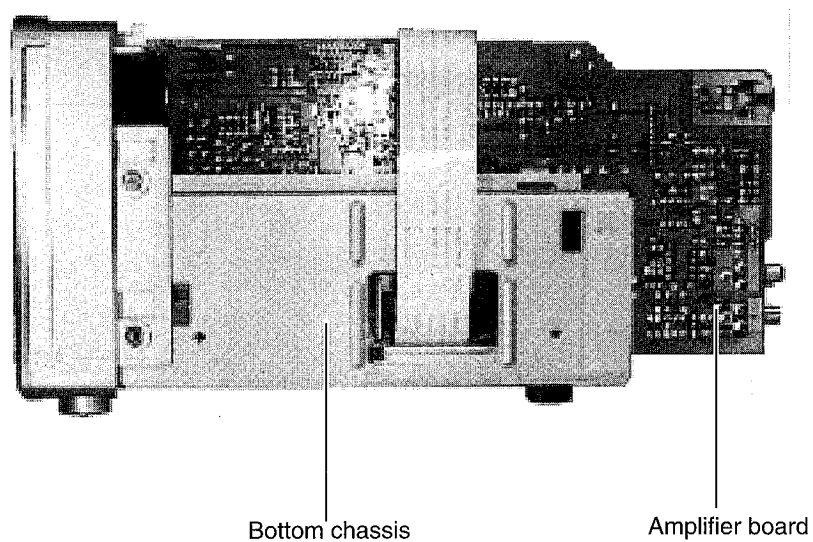


Fig. 2-2

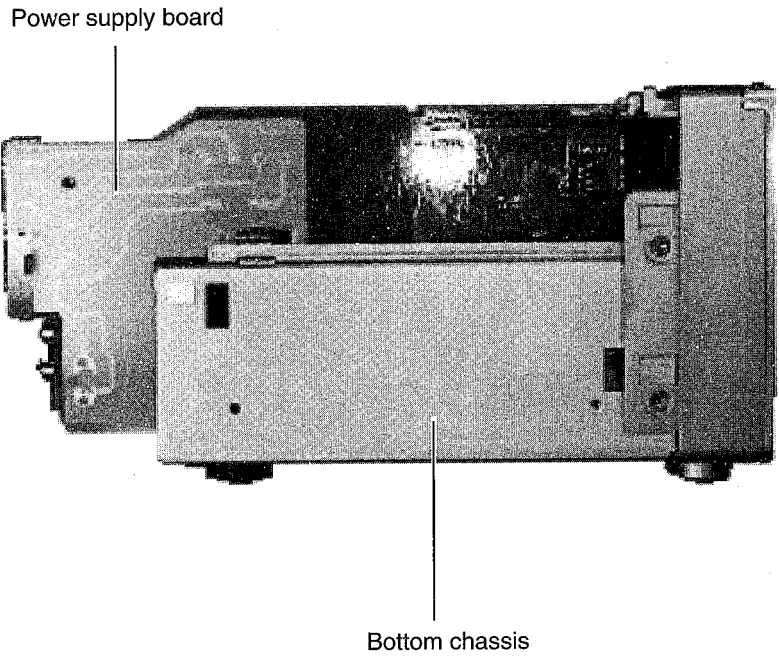


Fig. 2-3

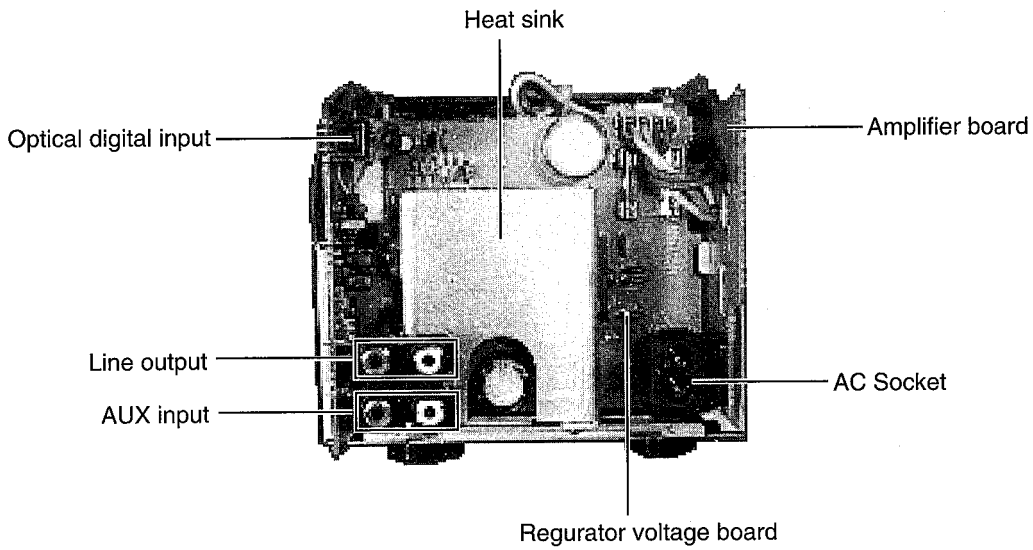


Fig. 2-4

Removal of Main Parts

■ Removing the Top Cover (See Figs. 1~3)

1. From both sides of the body, remove the four screws ① retaining the top cover. (See Figs. 1, 2)
2. From the back of the body, remove the two screws ② retaining the top cover. (See Fig. 3)
3. Remove the top cover toward the back of the body.

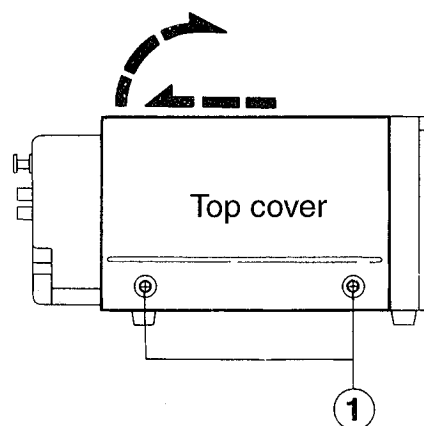


Fig. 1

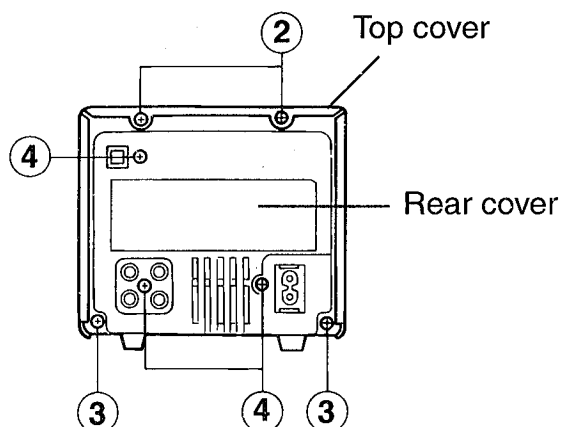


Fig. 3

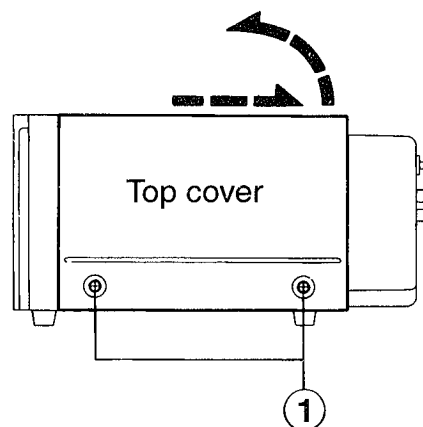


Fig. 2

■ Removing the Rear Cover (See Figs. 3, 4)

1. From both sides of the body, remove the two screws ③ retaining the rear cover. (See Fig. 3)
2. From the back of the body, remove the three screws ④ retaining the rear cover. (See Fig. 3)
3. Disengage the two engagements A on the right and left sides of the rear cover and chassis. (See Fig. 4)
4. Remove the rear cover toward the back of the body.

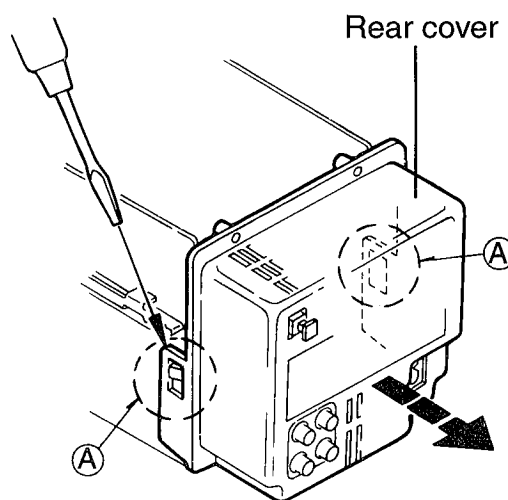


Fig. 4

■ Removing the Front Panel (See Figs. 5 ~ 9)

1. From the bottom side of the body, remove the two screws ⑤ retaining the front panel. (See Fig. 5)
2. From upperside of front panel, push the three engagements "B,C,D" and disengage them. (See Fig. 6)
3. From the both sides of front panel, remove the two screws ⑥ retaining the front panel. (See Figs. 7, 8)
4. From the front of body, remove the two screws ⑦ retaining the front panel. (See Fig. 9)
5. After disengaging the four engagements "E,F,G and H" between the front panel toward the front side in the arrow direction. (See Figs. 7, 8)
6. From the connector CN705 on the system CPU board, disconnect the card wires outgoing from the operation switch board. (See Fig. 8)
7. From the connector CN795 on the power supply board, disconnect the card wires outgoing from the connector CN771 on the operation switch board. (See Fig. 7)
8. From the connector CN305 on the amplifier board, disconnect the wire outgoing from W391 on the lamp board. (See Fig. 8)

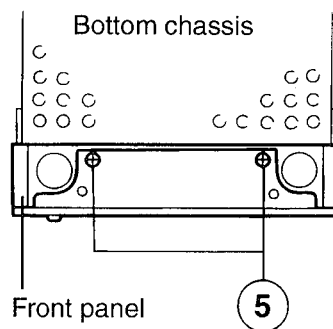


Fig. 5

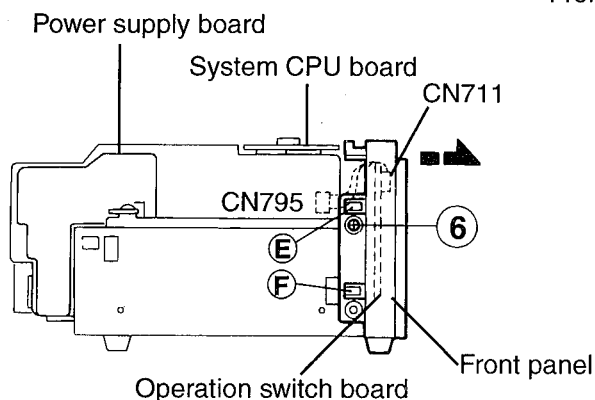


Fig. 7

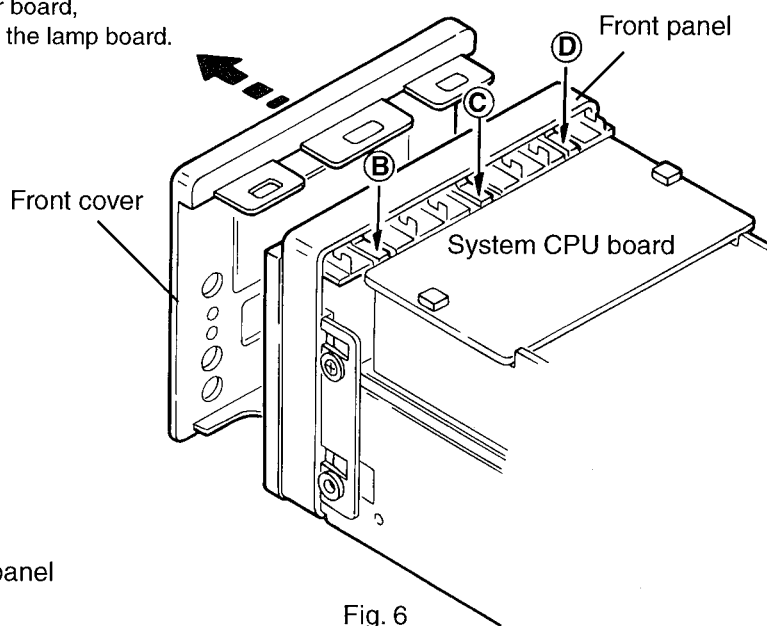


Fig. 6

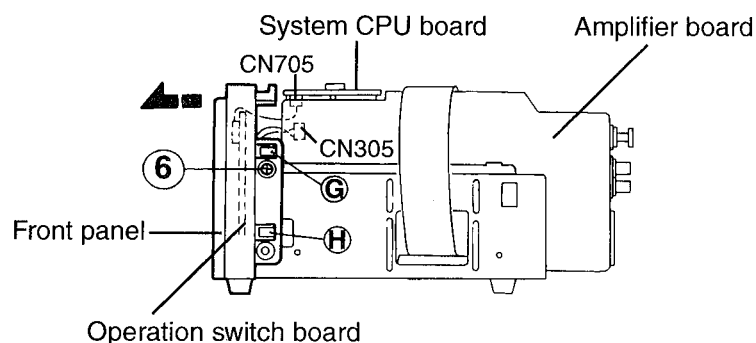


Fig. 8

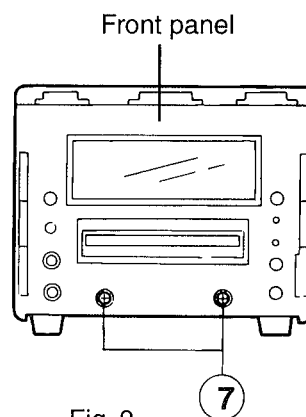


Fig. 9

■ Removing Regurator voltage ,

Power supply and Amplifier board(See Figs. 10~12)

1. From the connectors CN791, CN792, CN302, CN303 on the power supply and amplifier board, disconnect from the system CPU board. (See Fig. 10)
2. Remove the screw ⑧ retaining the additional board toward the arrow direction. (See Figs. 10, 11)
3. From the connector CN901 on the power supply board, outgoing from the 2pin connector (White, Blue) on the power transformer. (See Figs. 10, 11)
4. Remove the power supply board to slid upward, disengage the two engagements between the chassis and power supply board. (See Fig. 11)
5. From the connector CN902 on the power supply board, outgoing from the 4pin connector (Yellow, Red) on the power transformer. (See Figs. 10, 12)
6. Remove the screw ⑨ retaining the regurator voltage board. (See Fig. 10)
7. From the connector CN304 on the amplifier board, disconnect the card wire. (See Fig. 10)
8. Remove the screw ⑩ retaining the earth terminal outgoing from amplifier board. (See Fig. 10)
9. Remove the amplifier board to slid upward, disengage the two engagements between the chassis and amplifier board. (See Fig. 12)

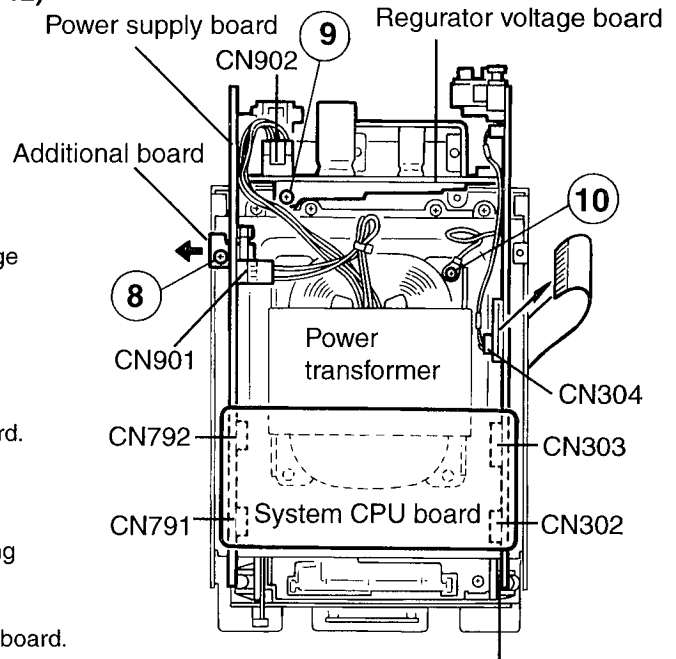


Fig. 10 Amplifier board

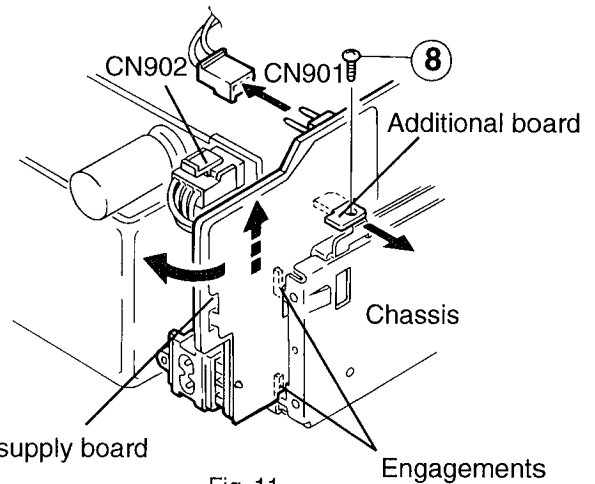


Fig. 11

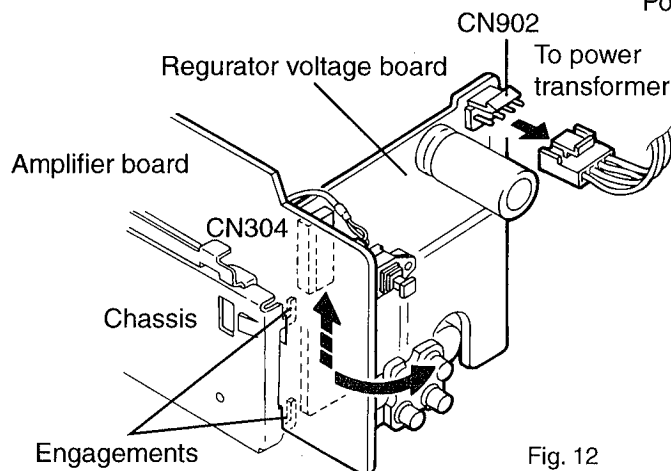


Fig. 12

■ Removing the Power Transformer (See Figs. 13)

Remove the three screws ⑪ retaining the power transformer.

■ Removing the MD Mechanism assembly (See Figs. 13, 14)

1. Remove the six screws ⑫ retaining the trans bracket.
(See Fig. 13)
2. Remove the two screws ⑬ retaining the MD Mechanism assembly.(See Fig. 14)
3. Disengage the engagement "J" to slide toward the rear from the chassis of the MD Mechanism.
4. Lift up the MD Mechanism toward the upper.

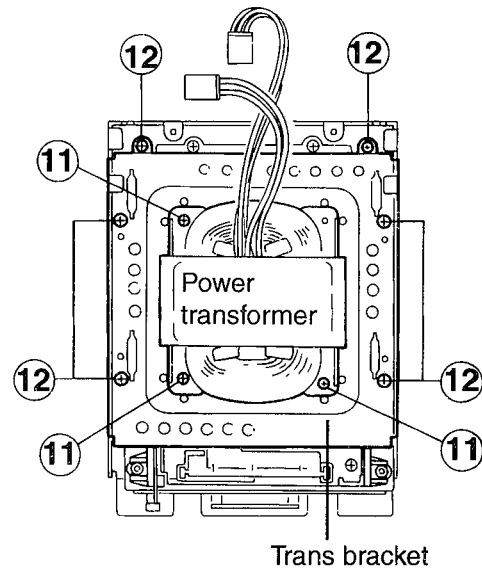


Fig. 13

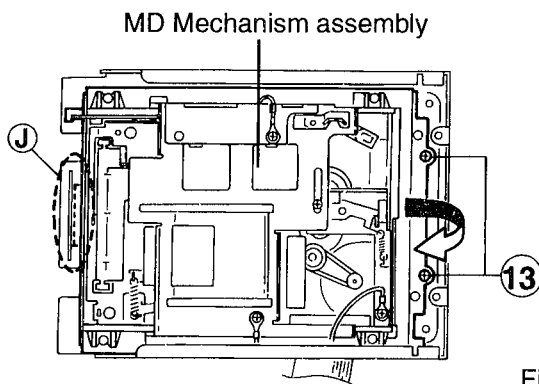


Fig. 14

■ Removing the MD Servo Control board (See Fig. 15)

1. From the back of MD Mechanism assembly, disconnect the connector wires from the connector CN410, CN400 on the MD Servo control board.
2. Remove the two screws ⑭ retaining the MD Servo control board.
3. Disengage the engagement "K" to pull out toward the rear from the holder of MD Servo control board.
4. Lift up the MD Servo control board toward the upper.
5. Before disconnect the flexibl wire from the connector CN300 on the MD Servo control board, solering the flexible wire like Figs. 15b .
Caution : If it disconnect from the connector CN300 to desolder, it will be broken.
6. Disconnect the flexible wire from the connector CN300 on the MD Servo control board.(See Fig. 15b)

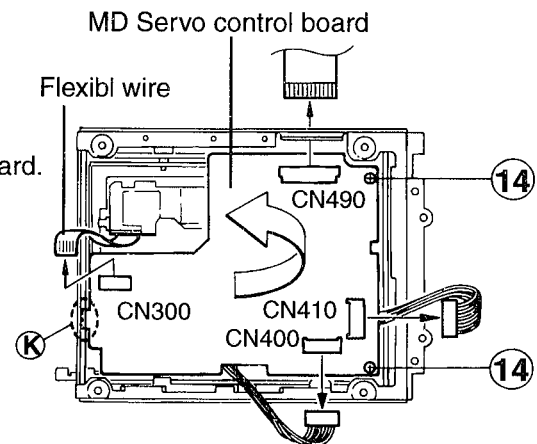


Fig. 15

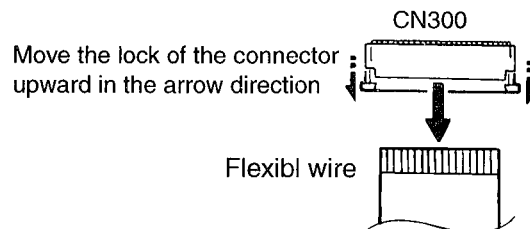


Fig. 15a

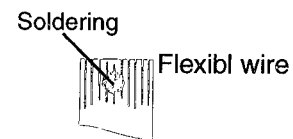


Fig. 15b

■ Removing the MD Mechanism (See Fig. 16)

- 1.Remove the three screws ⑮ retaining the side bracket from the left side of MD Mechanism.
- 2.Remove the four dampers from the MD mechanism.
- 3.Remove the slide bracket to slide right forward arrow direction from the MD Mechanism.

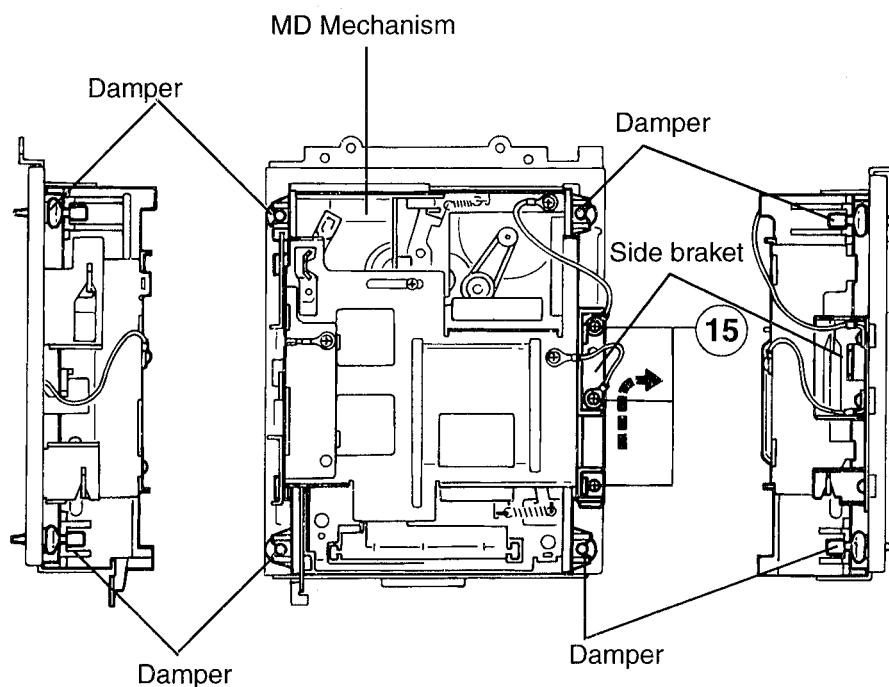


Fig. 16

■ Removing the Operation switch board (See Fig. 17)

- From the inside of front panel, remove the six screws ⑯ retaining the operation switch board.

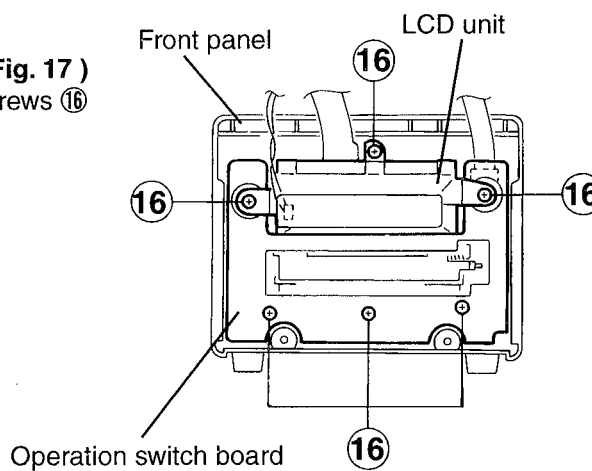


Fig.17

< MD Mechanism Section >

■ Removing the MD traverse mechanism

(See Figs. 18 ~ 20)

1. After dismounting the MD mechanism assembly, remove the MD servo control board.
2. Remove the screw (J) retaining the slide bracket.
3. Remove the two screws (G) retaining the MD traverse mechanism, and take out the bracket.
4. From the magnetic head, remove the two wires soldered to the loading printed circuit board.

(Caution) The MD traverse mechanism should be dismantled so carefully that the magnetic head is not caught into and damaged by any other parts. Especially make sure that the pickup is located inside. When removed from the peripheral, the magnetic head will be caught into the other parts.

5. While sliding the slide bracket in the direction of arrow ②, remove the MD traverse mechanism.

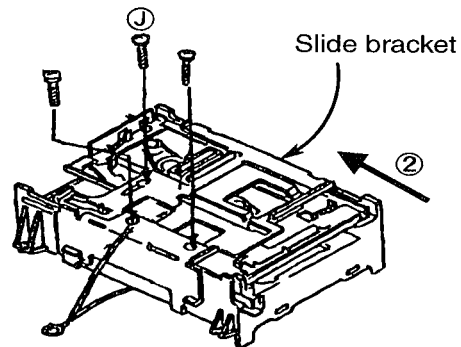


Fig. 18

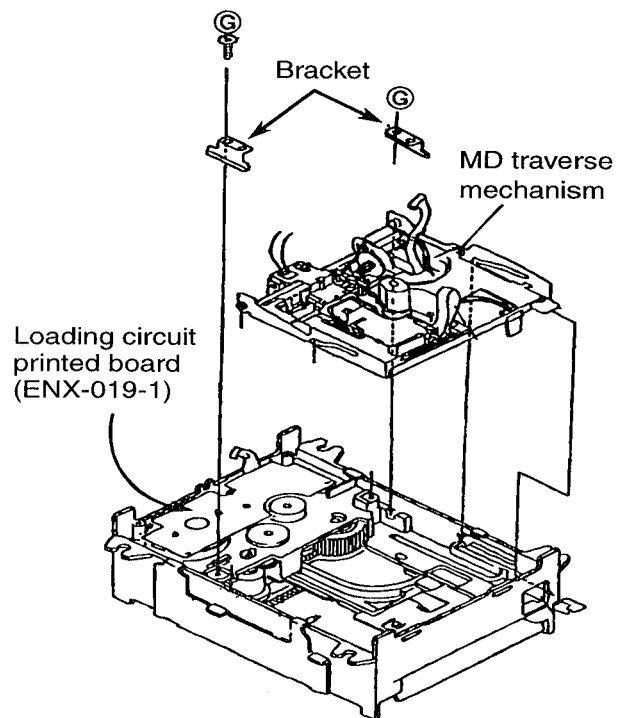
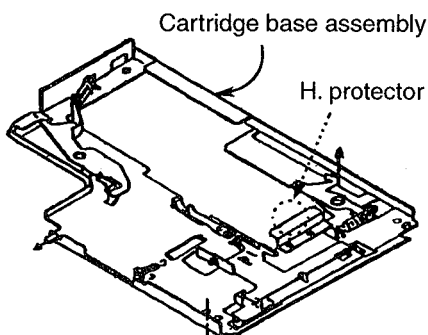
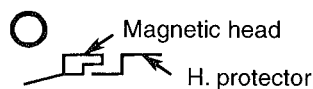


Fig. 19

Caution for removing the MD traverse mechanism



Make sure that the magnetic head is not caught into the H. protector of the cartridge base assembly.



Be so careful that the magnetic head does not run onto the H. protector.

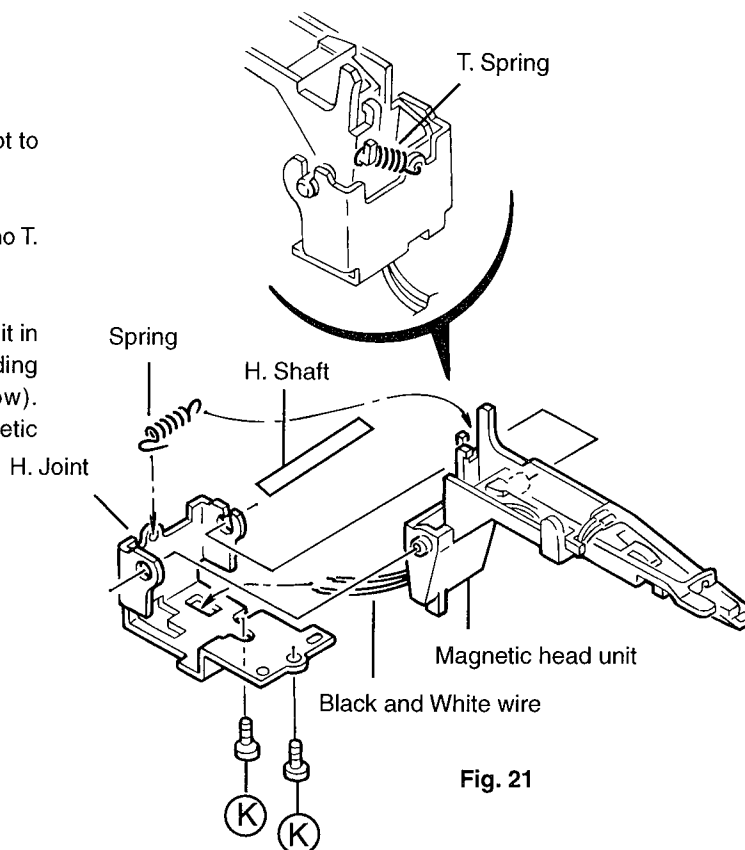
Fig. 20

■ Removing the magnetic head unit

(See Figs. 21 and 22)

1. Remove the MD traverse mechanism.
2. Remove the two screws (K) retaining the H. joint.
(See Fig. 21)
3. Pull out the magnetic head unit so carefully so as not to come into contact with the pickup lens.
4. Pull out the H. shaft from the side on which there is no T. spring. (See Fig. 22)

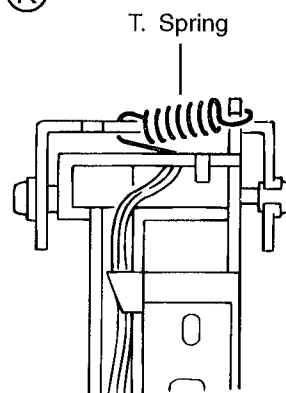
(Caution) When mounting the H. shaft, be sure to press it in so carefully that the shaft is not bent (Regarding the press-in dimensions, see Fig. 23 below). Otherwise, an appropriate angle of the magnetic head cannot be obtained.



■ Removing the MD pickup

(See Figs. 21 ~ 23)

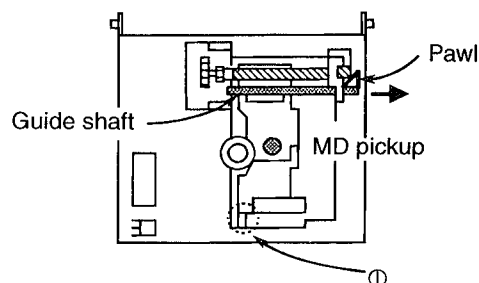
1. Remove the MD traverse mechanism.
2. Remove the two screws (K) retaining the magnetic head unit (See Fig. 23).
3. After removing the pawl, pull the guide shaft in the direction of arrow and remove the pickup together with the guide shaft.



■ Mounting the MD pickup

(See Fig. 23)

1. Insert the portion (I) of the pickup into the guide and mount the guide shaft.
2. Confirm that the guide shaft is fixed with the pawl.



■ Removing the feed motor assembly

(See Fig. 24)

1. Remove the MD traverse mechanism.
2. After turning over the MD traverse mechanism, remove the two wires (black and white wires) soldered to the printed circuit board.
3. Remove the one screw (L) retaining the motor bracket.
4. After removing the pawl (2) from the chassis base, dismount the feed motor assembly.

■ Removing the spindle motor assembly

(See Figs. 21 ~ 23)

1. Remove the MD traverse mechanism.
2. Pull out the turntable assembly.
3. After turning over the MD traverse mechanism, remove the two wires (red and black wires) soldered to the printed circuit board.
4. Remove the two screws (K) retaining the spindle motor assembly.

(Caution) Whenever the spindle motor assembly is changed, the turntable assembly should also be changed. It is impossible reuse the turntable assembly.

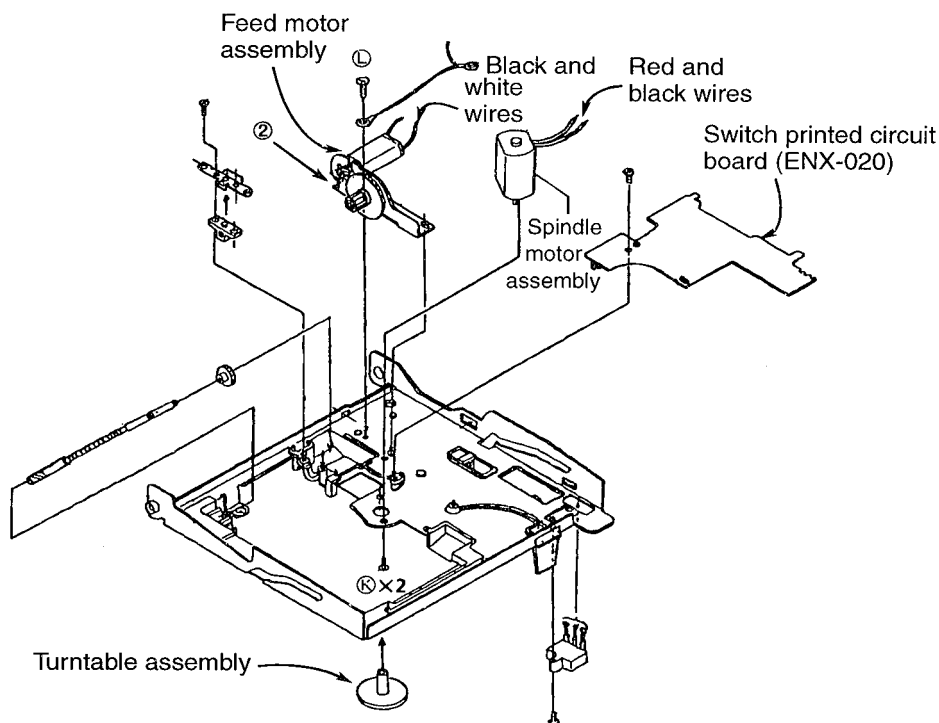


Fig. 24

■ Removing the slide bracket

(See Fig. 25)

1. Remove the MD mechanism assembly.
2. Remove the two screws (H) retaining the slide bracket (L).
3. Remove the slide bracket (R) after removing the slide bracket (L).

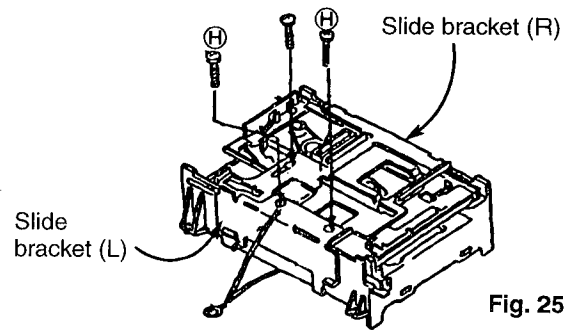


Fig. 25

■ Removing the CAR. base assembly

(See Figs. 26 ~ 28)

1. After dismantling the MD mechanism assembly, remove the MD servo Control board.
2. Remove both of the slide brackets (L) and (R). (See Fig. 25)
3. Remove the three screws (M) retaining the CAR. base assembly. (See Fig. 27)
4. After removing the spring (d), dismount the CAR. base assembly and rack. (See Fig. 27)

(Caution) The CAR. base assembly and rack should be assembled according to the methods in Figs. 27 and 28.

[Mounting of rack]
While passing the rack under the pawl of the shutter lever (a), mount the rack as indicated below:

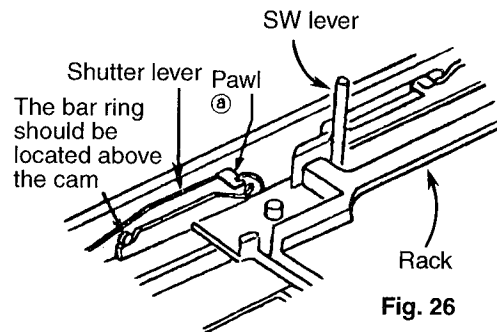


Fig. 26

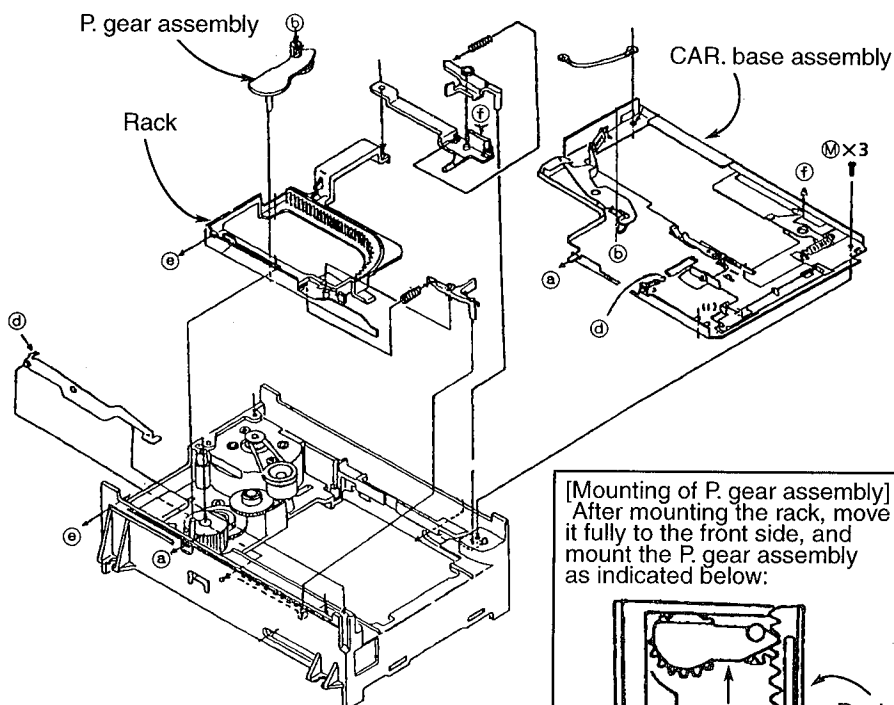


Fig. 27

[Mounting of P. gear assembly]
After mounting the rack, move it fully to the front side, and mount the P. gear assembly as indicated below:

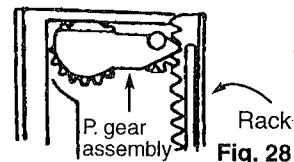


Fig. 28

■ Removing the loading motor assembly

(See Fig. 29)

1. Remove the CAR. base assembly and rack.
2. Remove the two screws (N) retaining the loading motor assembly.
3. Remove the loading motor assembly soldered to the loading printed circuit board.

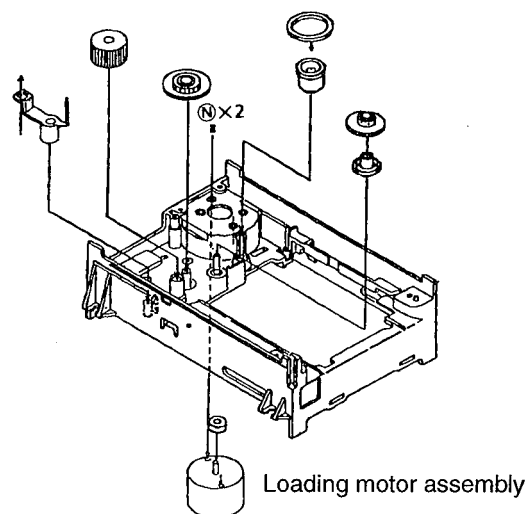


Fig. 29

■ Mounting the parts on the respective motors

(See Figs. 30 ~ 32)

1. Press in the turntable assembly to the spindle motor according to the dimensions in Fig. 30.
2. Press in the gear to the feed motor as indicated in Fig. 31.
3. Press in the pulley to the loading motor according to the dimensions in Fig. 32.

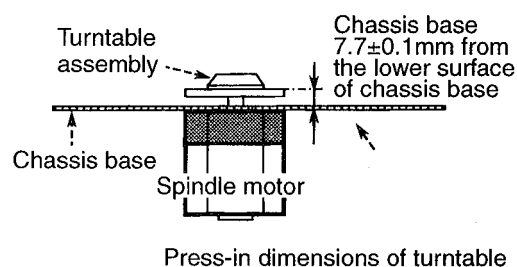


Fig. 30

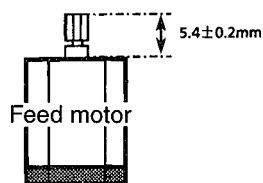


Fig. 31 Press-in dimensions of feed motor gear

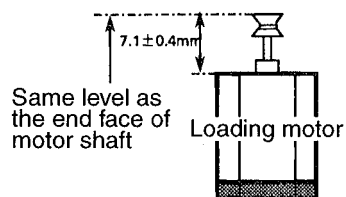


Fig. 32 Press-in dimensions of loading motor pulley

Main Adjustment

■ Test instruments, jigs and tools required for adjustment and confirmation

1. Oscilloscope
2. Laser power meter (ADVANTEST TQ8210 or equivalent)
3. Test disc (Pre-mastered disc "MRG-1018" and recordable disc: Fully recorded disc)
4. Eccentric disc (TMD-311R), 5. Blank disc
6. Scratched 8cm disc (CRG-311R), 7. Surface vibration disc (CRG-1242W), 8. Music disc
9. Gain and constant current adjustment jigs

■ Measurement conditions

1. Power supply voltage: AC120V (50Hz): J
AC230V (50Hz): B/E/EN/G
AC110/127/220/230-240V (50/60Hz): UB/US/UT/U
2. Line-out: 500mV (−3.8dBs)/49 k Ω
3. Reference input: LINE IN 500mV

(Safety precautions)

Since this model is designed to perform magnetic recording, the laser beams with an intensity ten times or more of the conventional compact disc are output. Whenever the [FAST REWIND], [FAST FEED], [REC/PAUSE] and other keys have been pressed under the test mode for adjustment, moreover, the laser beams will be output at all times. Therefore, be sure not to look directly at the laser beams nor let the body come into contact with the beams during not only during adjustment, action check and so forth.

■ Setting to the test mode

After setting the function switch to the MD mode in advance, insert the power supply cord to the AC receptacle. Then, set to the test mode by pressing the [POWER], [■/CLEAR] and [+10] keys at the same time from the remote controller. After pressing the [POWER] key on the body, automatically, [CHECK MODE] will be released.

■ Setting to the check mode

Press the [DIVIDE] key under the test mode from the remote controller to set to the check mode. The checking action should be performed with the operating key on the body. In this case, [CHECK MODE] will be displayed.

Operation keys on the body	Functions
■	ALL STOP
▲ EJECT	EJECT
▶	FOCUS SEARCH
◀◀	SPINDLE PLL SERVO
▶▶	SPINDLE PIT ROUGH SERVO
DISPLAY	SPINDLE GROUP SERVO
REC PAUSE	TRACKING ON/OFF

■ Setting to automatic adjustment mode

Press the [JOIN] key under the test mode from the remote controller. Then, this system will be set to the automatic adjustment mode. The checking action should be performed with the operating key on the body. In this case, [ADJUST MODE] will be displayed. After pressing the [⏻/I] key on the body, automatically, [CHECK MODE] will be released.

■ Adjustment of MD section

[illegible]

General Flow until Reading TOC

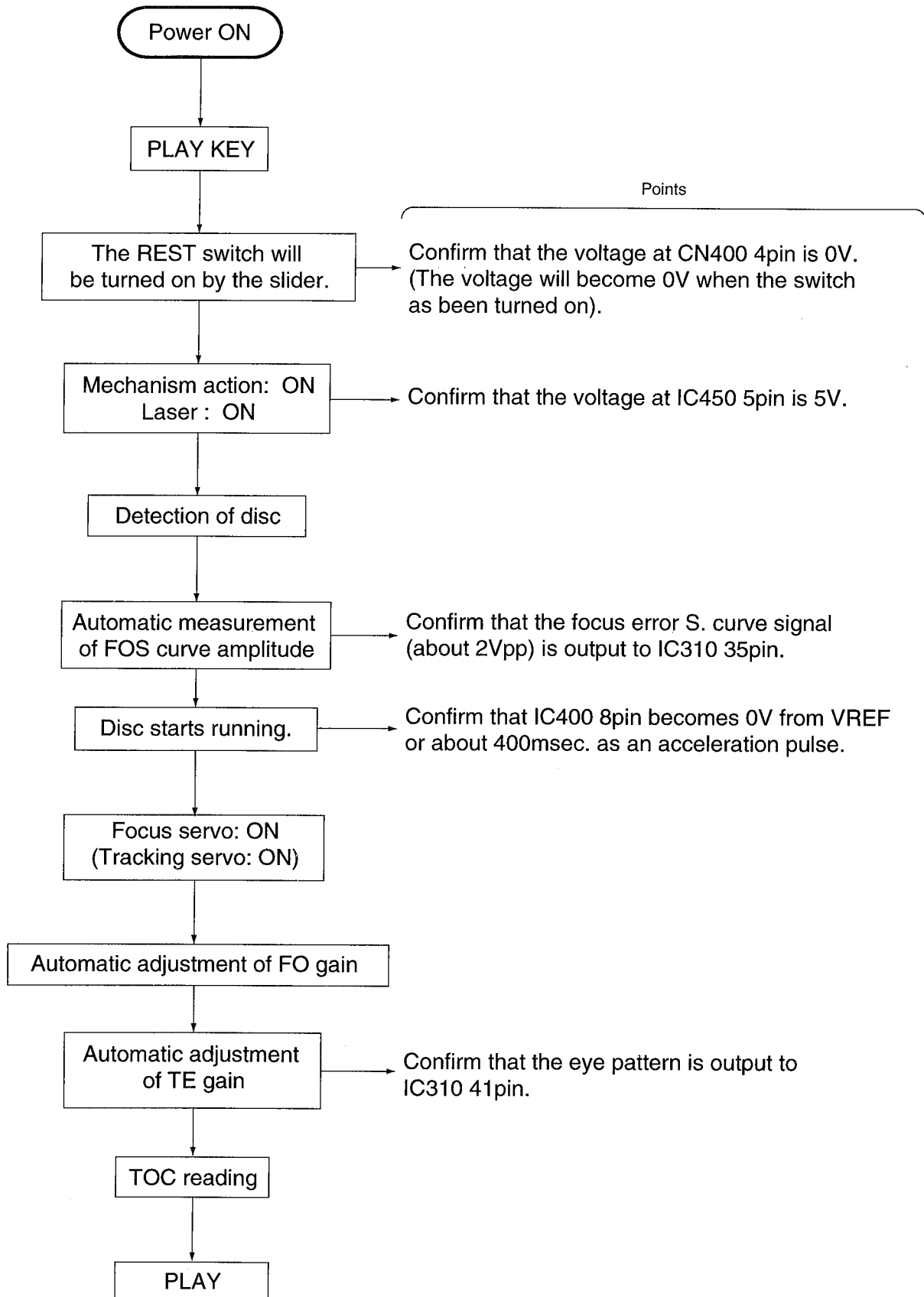


Fig. 33

Maintenance of MD Pickup

(1) Cleaning of pickup lens

- 1) Prior to changing the pickup, clean the pickup lens.
- 2) For cleaning the lens, use the following cotton swab after immersing it in alcohol.

Product No. JCB-B4; Manufacturer: Nippon Cotton Swab

(2) Confirmation of the service life of laser diode when the service life of the laser diode has been exhausted, the following symptoms will appear:

- 1) Recording will become impossible.
- 2) The RF output (EFM output and eye pattern amplitude) will become lower.
- 3) The drive current required for light emitting of laser diode will be increased.

Confirm the service life according to the following flow chart:

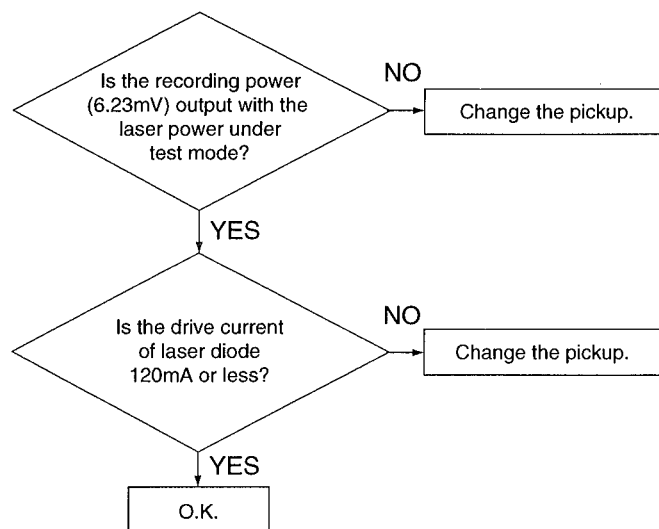


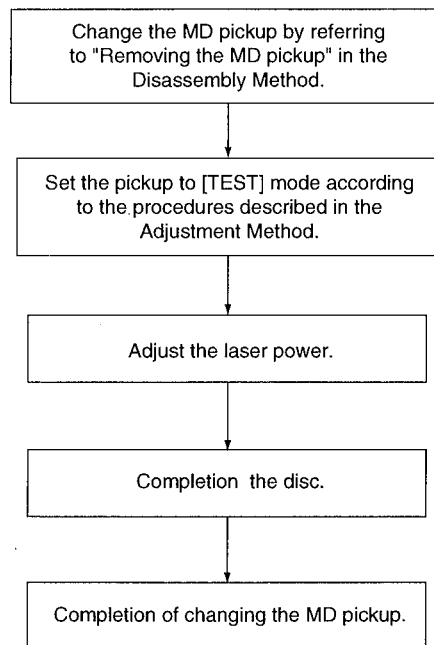
Fig. 34

(3) Method of measuring the drive current of laser diode

When the voltage measured at TP 1LCC (Q301 emitter) and +5V (Q303 emitter) of the MD servo P.C. board (ENX-023) have become 600mV or over, the service life of the laser diode is judged to have been exhausted.

[Caution] When TP 1LCC (Q301 collector) and +5V (Q303 emitter) have been in short circuit on such an occasion, then the laser diode will be broken. Therefore, take utmost care in handling the MD pickup.

Procedures for Changing the MD Pickup



★ Since this system is designed to perform magnetic recording, the laser power ten times or over of the conventional CD player will be output. Therefore, be sure to perform not only adjustment and operation of this system so carefully as not to directly look at the laser beam or touch on the body.

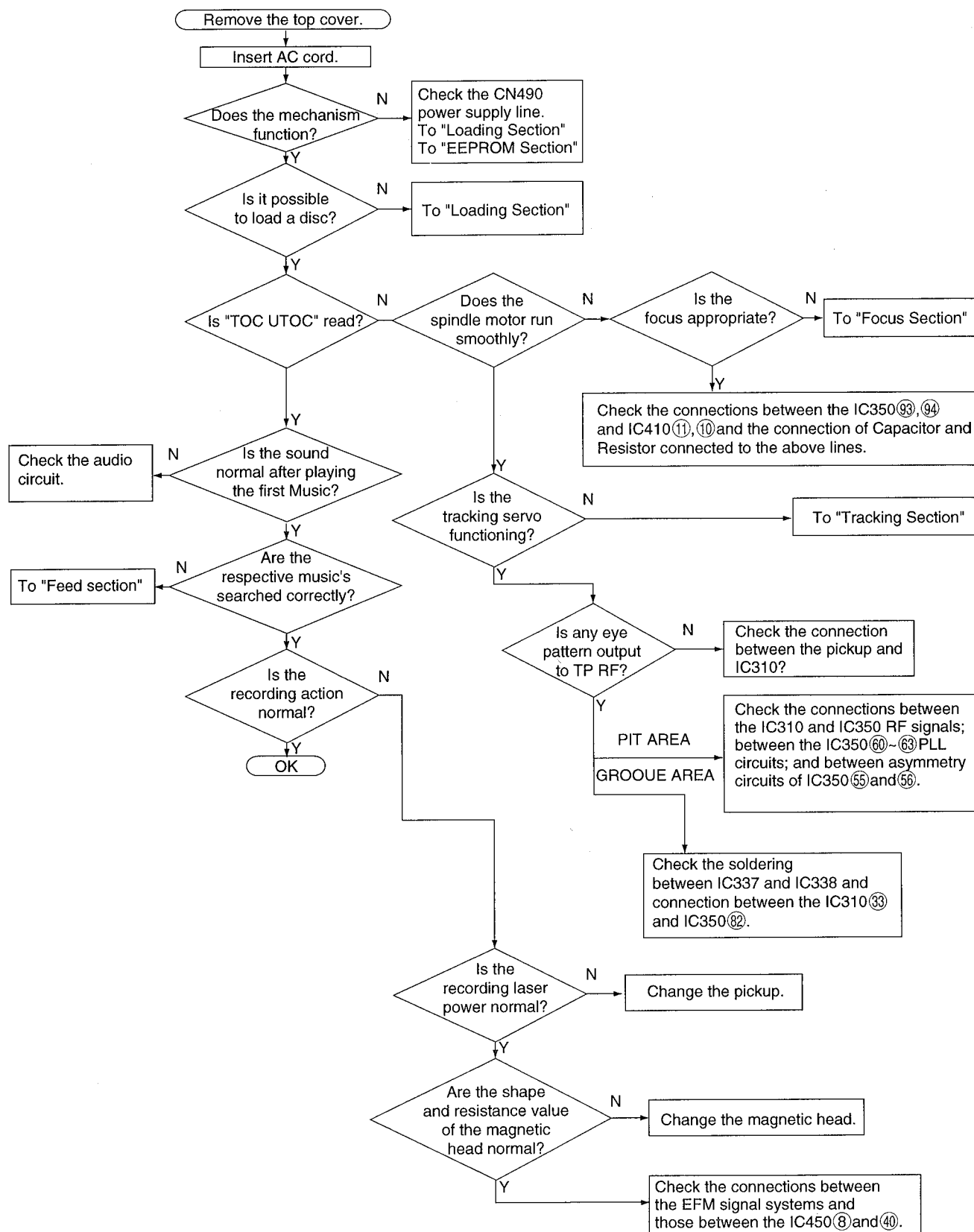
Fig. 35

(4) Semi-solid state resistors on the APC P.C. board

The semi-solid state resistor on the APC P.C. board attached to the pickup is used for adjusting the laser power. Since these resistors should be adjusted in pair according to the characteristics of the optical block, be sure not to touch on the resistors.

Since the service life of the laser diode will be exhausted when the laser power is low, it is necessary to change the pickup. Meanwhile, do not turn the semi-solid state resistors of the normal pickup. Otherwise, the pickup will be damaged due to overcurrent.

Procedures for repairing



Outputs of IC450(8) and (40) when the action is normal



Approx. 0.5 ms Approx. 1.5 ms

Fig. 36

EEPROM Section

After resetting, the microcomputer will access to EEPROM and read out all of the address values. In case the address data which have been read out at this time do not coincide with those on the microcomputer program, the EEPROM data will all be rewritten and read out once again. Should the address values read out at this time do not coincide with those on the microcomputer program, then a cycle from writing through to reading and comparison will be repeated until the values which have been read out coincide with the written values. Therefore, the program will not proceed any further. When the contents of EEPROM have been damaged or EEPROM has been replaced with a new one, this system will placed into this state. In such a case, turn of the AC power supply, and after connecting IC450(50) to GND, turn on the AC power supply. At this time, the mechanism will perform the [EJECT] action (Otherwise, repeat the adjustment steps). In case the mechanism does not perform any [EJECT] action, an electrical breakdown of EEPROM (IC453) can be considered.

Loading Section

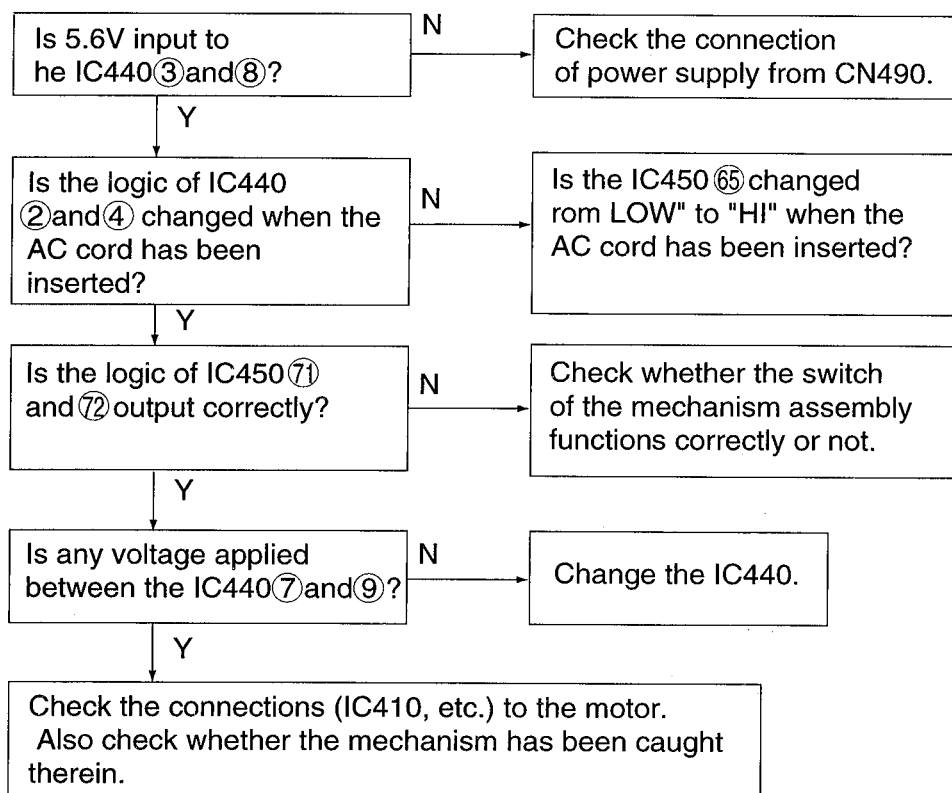


Fig. 37

Timing of mechanism switch

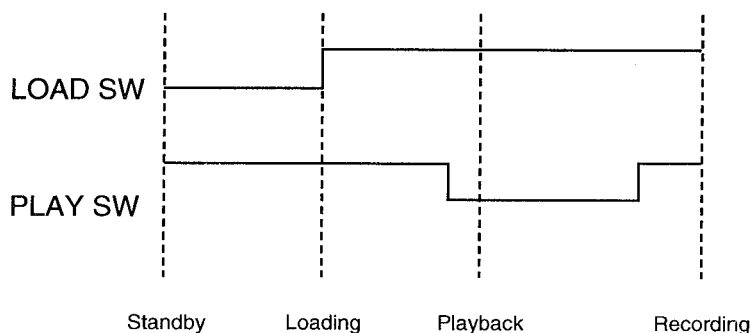


Fig. 38

Focus Section (Prior to executing the following steps, change the source of this set to MD)

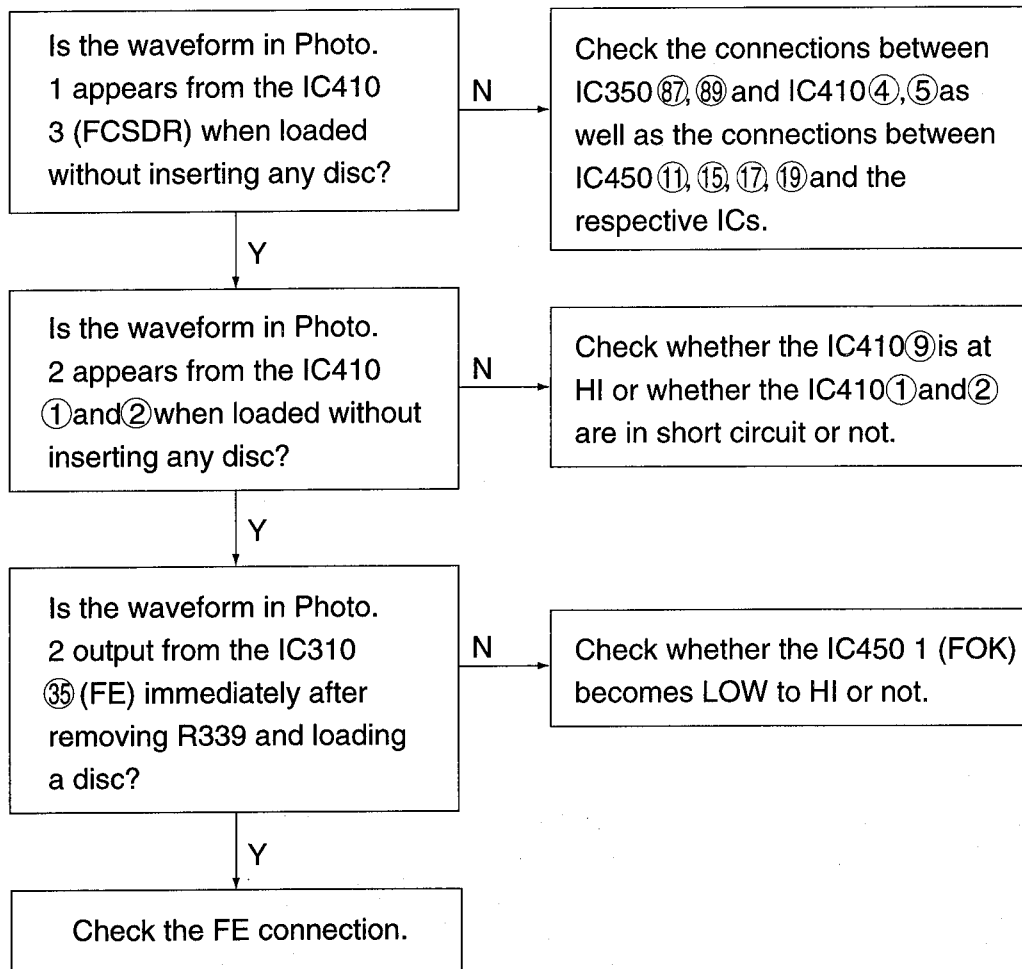
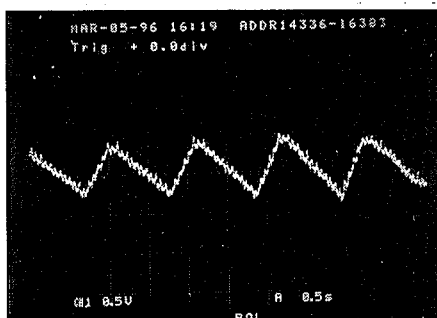


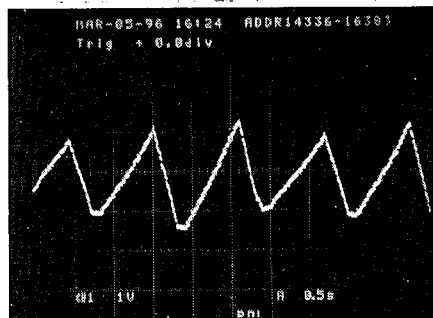
Fig. 39

Photo. 1



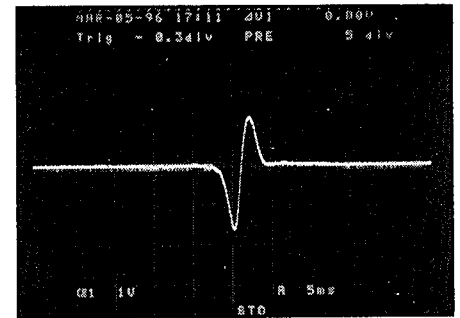
Connect VC to GND of the oscilloscope.

Photo. 2



Voltage between IC401 (1) and (2)

Photo. 3



Connect VC to GND of the oscilloscope.

Fig. 6-10

Fig. 40

Tracking Section

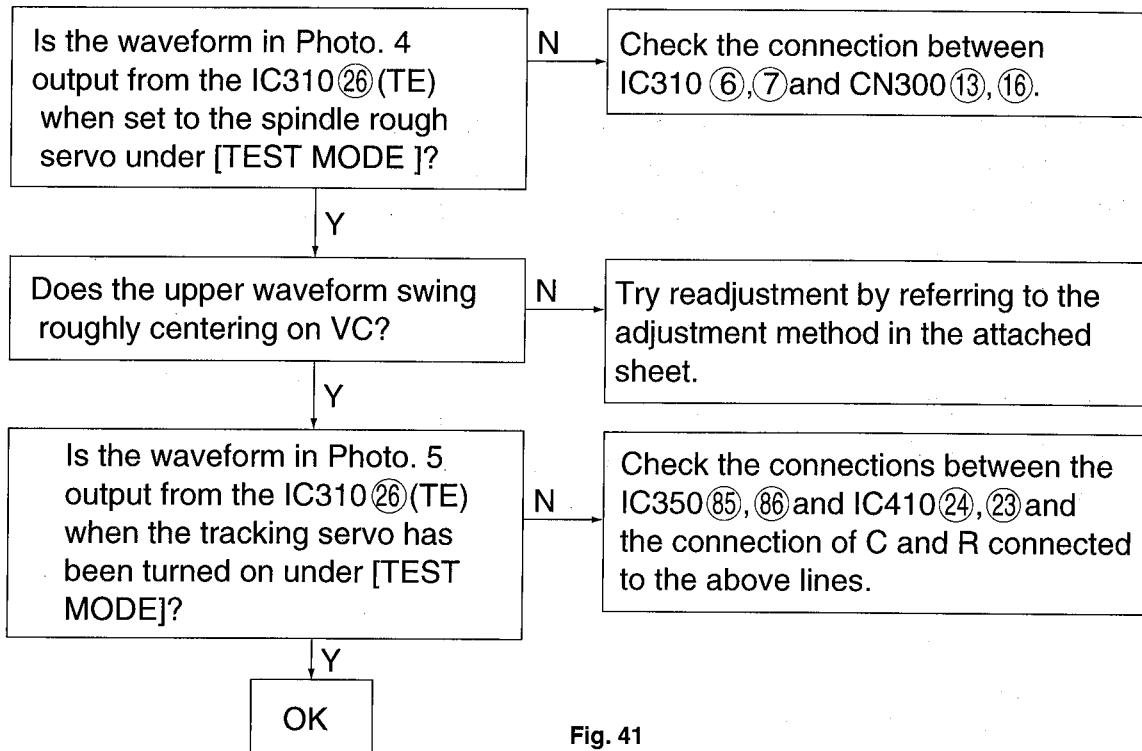
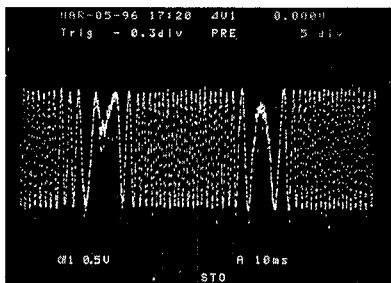


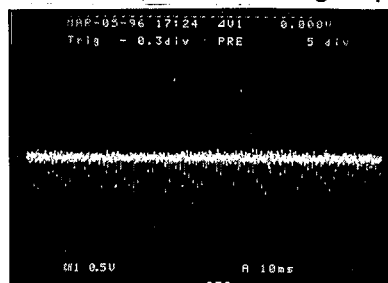
Fig. 41

Photo. 4 (Recordable group)



Connect VC to GND
of the oscilloscope.

Photo. 5 (Recordable group)



Connect VC to GND
of the oscilloscope.

Fig. 42

Feed Section

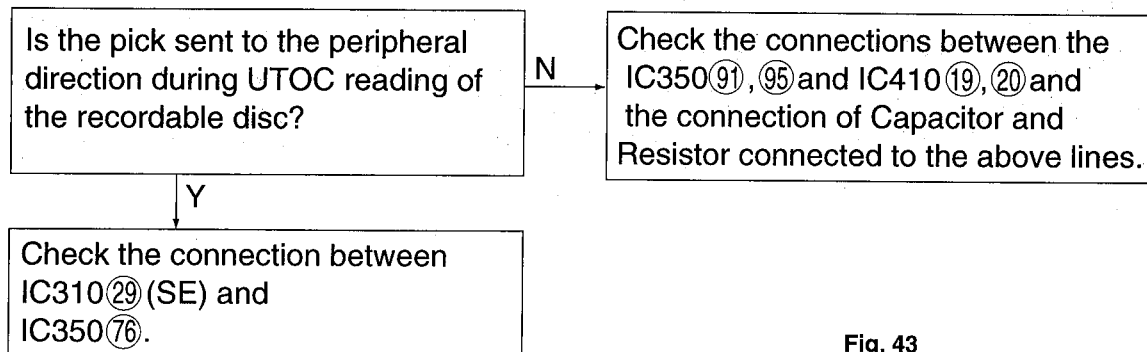


Fig. 43

Out Line of Main IC

■ IC450 : HD6433042SA Terminal Function Table

Pin No.	Symbol	I/O	Function
1	FDK	I	FOK (2535: H at FOK and L at NG)
2	SENS	I	SENS (2535)
3	YCC		Power supply
4	P.ON	O	H: LSI power supply ON; L: OFF
5	MEMUTE	O	H: Driver ON; L: OFF
6	MODCHG	O	L: Play; H: REC. (Harmonic weight power selection)
7	TX	O	H: Recorded data output ENABLE
8	WRPWR	O	H: Laser light power; L: Lead power
9	RST36	O	2536 is reset at "L".
10	XRST	O	Other than 2536 is reset at "L".
11	XLAT	O	2535/36, 1981 latch output
12	RESO	O	Not connected
13	GND		Ground
14	STATUS	O	COMOUT (Status output to host)
15	SWDT	O	2535/36, 1981 data output
16	COMAND	I	COMIN (Command input from host)
17	SRDT	I	Data input from 2535/36
18	COMCLK	I	
19	SCLK	O	2535/36, 1981 clock
20	SELECT1	I	ID input
21	SELECT2	I	
22	SELECT3	I	
23	SELECT4	I	
24	GND		Ground
25	KEYIN1	I	Key input
26	KEYIN2	I	
27	KEYIN3	I	
28	KEYIN4	I	Key output
29	KEYO0	O	
30	KEYO1	O	
31	CHK1	O	CLVLOCK [Monitor output (H: CLOV lock; L: Unlock)]
32	CHK2	O	
33	CHK3	O	
34	NC		Not connected
35	STSADY	O	
36	MODON	O	L: Harmonic weight ON; H/Hi-Z: OFF
37	VCC		Power supply
38	EJECT	O	
39	LOAD	O	
40	MHON	O	Magnetic head ON (H during recording)

Pin No.	Symbol	I/O	Function
41	AMUTE	O	L: Audio mute ON; H: OFF
42	EMPHE	O	H: Emphasis ON; L: OFF
43	CS	O	EEPROM chip select
44	DI	O	Data output to EEPROM
45	SCL	O	EEPROM clock
46	GND		Ground
47	T.MODE1	O	In case of other than single unit test mode (Bit 4 of Port 8: H), bit 3210 of Port 2 <div> 1110 Test mode 1 1101 Test mode 2 1011 Test mode 3 0111 Test mode 4 </div>
48	T.MODE2	O	
49	T.MODE3	O	
50	T.MODE4	O	
51	SET4		
52	SET3		
53	SET2		
54	SET1		
55	DDGLED	O	Digital direct green LED (H: ON; L: OFF)
56	DDGLED	O	Digital direct red LED (H: ON; L: OFF)
57	PLAYLED	O	Digital direct two-color LED (H: ON; L: OFF)
58	RECLED	O	REC. IND. 2-color LED (H: ON; L: OFF)
59	GND		Ground
60	SSTPO	I	L: Rest position
61	MREF	I	
62	MPROT	I	
63			
64	STBY		
65	RESET		
66	NMI		
67	GND		Ground
68	EXTAL		
69	XTAL		
70	VCC		Power supply
71	PLAY.SW		"L" at mechanism playback position
72	LOAD.SW		"H" when pressing in mechanism
73	GND		Ground
74	CDBUSY	I	H: During CD playback; L: Other
75	MD0		
76	MD1		
77	MD2		
78	AVCC		Power supply
79	VREF		
80	VCHECK	I	Analog input for checking power reduction (voltage drop)

Pin No.	Symbol	I/O	Function
81	OVL D		
82			
83			
84			
85			
86			
87			
88	GND		Ground
89	XINT	I	L: When requested to interrupt 2536
90	DQSY	I	L: Sub-code 0 sink output of DIGITAL IN of 2535
91	SQSY	I	L: Disc sub-code 0 sink input of 2535
92	ADSY	I	L: ADIP sink output of 2535
93	TEST	I	Test mode (L: Single unit test mode; H: Normal mode)
94	GND		
95	DO	I	Data input from EEPROM
96	GND		
97	GND		
98	GND		
99	SHCK	I	2535: L at shock detection
100	OFTRK	I	2535: H at off-track

■ Arrangement of pins

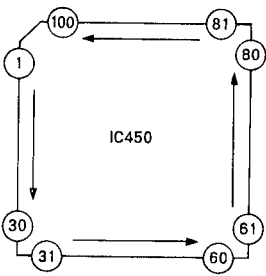


Fig. 44

■ IC310: CXA1981AR (RF matrix amp.)

1. Arrangement of pins

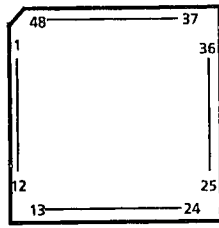


Fig. 45

2. Block diagram

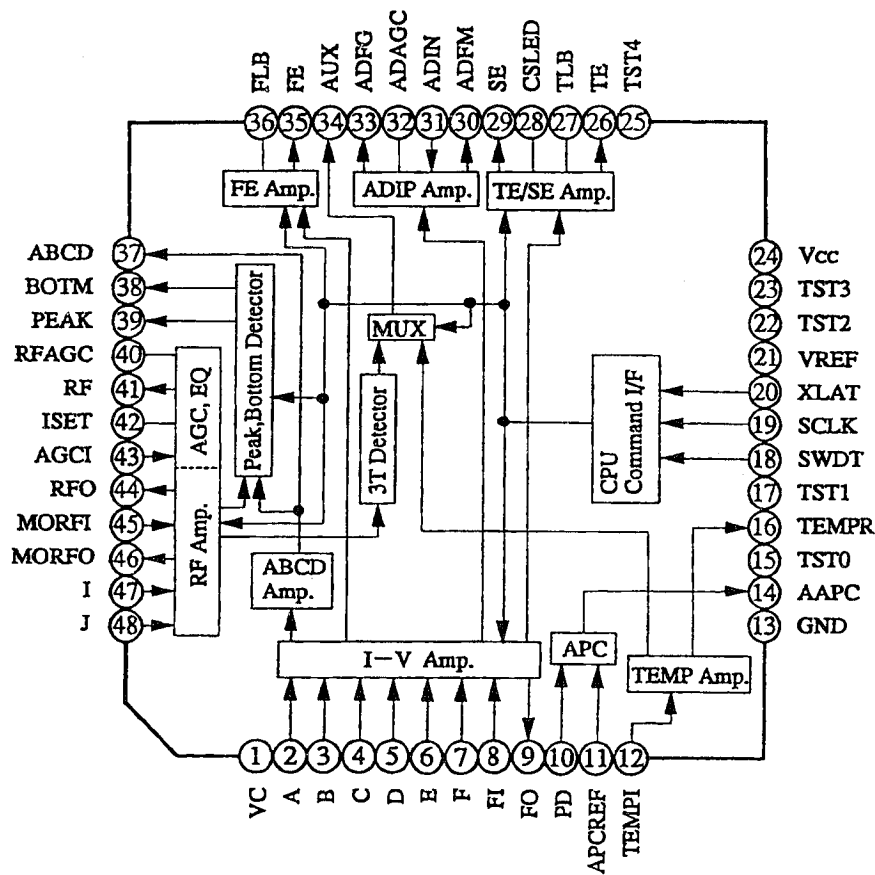


Fig. 46

3. Description of Terminals

Pin No.	Symbol	I/O	Function
1	VC	O	Voltage terminal of VCC/2
2	A	I	Current input terminal of main beam servo signal A
3	B	I	Current input terminal of main beam servo signal B
4	C	I	Current input terminal of main beam servo signal C
5	D	I	Current input terminal of main beam servo signal D
6	E	I	Current input terminal of main beam servo signal E
7	F	I	Current input terminal of main beam servo signal F
8	FI	I	EF balance adjusting terminal
9	FO	O	EF balance adjusting terminal
10	PD	I	Light quantity monitor signal input terminal
11	APCREF	I	Laser power setting reference voltage input terminal
12	TEMPI	I	Temperature sensor connector terminal
13	GND	—	Ground terminal
14	AAPC	O	APC output terminal
15	DAPC	—	Not used
16	TEMPR	O	Reference voltage output terminal for temperature sensor
17	XRST	I	Reset input terminal (Reset at "L")
18	SWDT	I	Microcomputer serial interface data input terminal
19	SCLK	I	Microcomputer serial interface shift clock input terminal
20	XLAT	I	Microcomputer serial interface latch input terminal. Latching at "L".
21	VREF	—	Not used
22	TST2	—	Not used
23	TST3	—	Connected to VC
24	VCC	—	Power supply terminal

Pin No.	Symbol	I/O	Function
25	TST4	—	Not used
26	TE	O	Tracking error signal output terminal (To IC350 77pin)
27	TLB	—	Time constant outer terminal for raising tracking error signal low pass (band)
28	CSLED	—	Thread error signal LPF condenser connector terminal
29	SE	O	Thread error signal output terminal
30	ADFM	O	FM signal output terminal of ADIP
31	ADIN	I	ADIP signal comparator input terminal
32	ADAGC	—	ADIPAGC condenser connector terminal
33	ADFG	O	ADIP2 binary signal output terminal
34	AUX1	O	Temperature signal output terminal
35	FE	O	Focus error signal output terminal (To IC350 67)
36	FLB	—	Time constant outer terminal for raising focus servo low pass (band)
37	ABCD	O	Light quantity signal output terminal of main beam servo detector servo detector
38	BOTM	O	Bottom signal output terminal of RF/ABCD
39	PEAK	O	Peak signal output terminal of RF/ABCD
40	RFAGC	—	RFAGC condenser connector terminal
41	RF	O	RF output terminal (Eye pattern check point)
42	ISET	—	BPF (f0 = 720kHz and 22 kHz) and RF equalizer setting terminal
43	AGCI	I	AGC control input terminal
44	RFO	O	RF amp. output terminal
45	MORFI	I	Terminal for inputting groove RF signal while AC- coupling this signal
46	MORFO	O	Groove RF signal output terminal
47	I	I	Input terminal of I-V converted RF signal J
48	J	I	Input terminal of IV converted RF signal J

■ IC350: CXD2535BR (EFM/ACIRC encoder/decoder with built-in digital servo processor)

1. Arrangement of pins

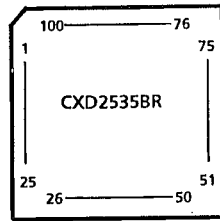


Fig. 47

2. Block diagram

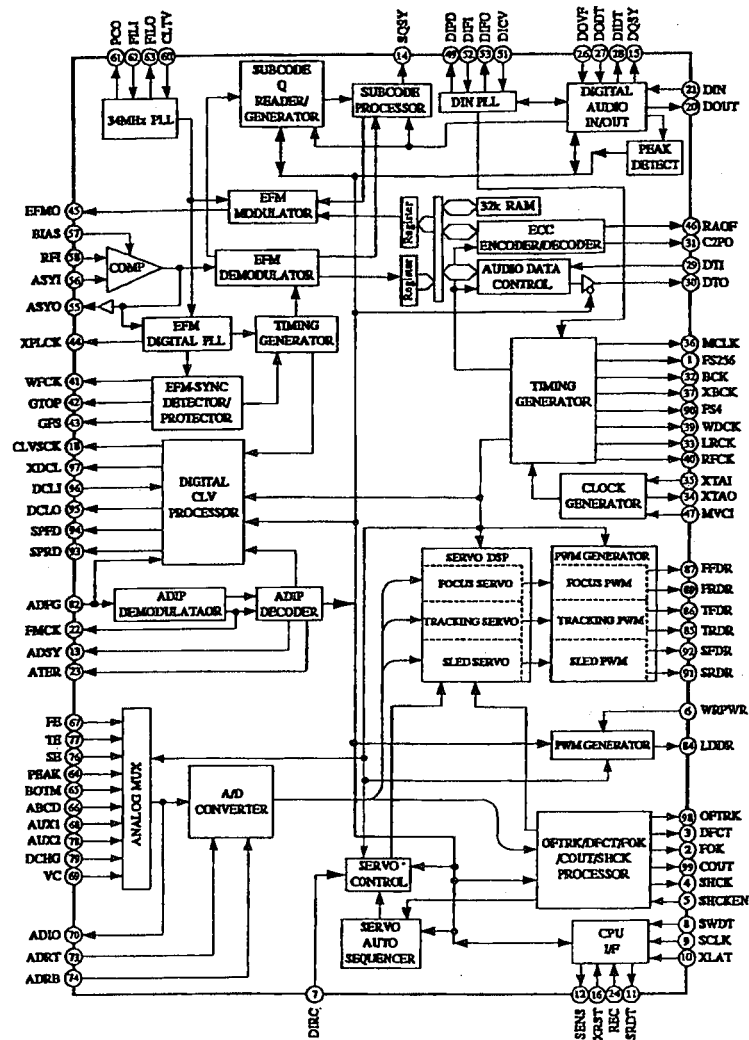


Fig. 48

3. Description of terminals

Pin No.	Symbol	I/O	Function
1	FS256	O	256Fs output (11.2896MHz)
2	FOK	O	FOK signal output terminal. Focus OK at "H"
3	DFCT	O	Defect detector output. Defective at "H"
4	SHCK	O	Track jump detector output
5	SHCKEN	I	Track jump detector ENABLE input. ENABLE at "H"
6	WRPWR	I	Laser power selector input. REC. power at "H" and playback power at "L".
7	DIRC	I	Track jump control signal
8	SWDT	I	Microcomputer serial data input terminal
9	SCLK	I	Shift clock input terminal of microcomputer serial data
10	XLAT	I	Latch signal input terminal of microcomputer serial data. Latch at rising.
11	SRDT	O	Microcomputer serial data output terminal
12	SENS	O	Internal status output terminal to serial pass (To IC450 2 pin)
13	ADSY	O	ADIP sink output (To IC450 92 pin)
14	SQSY	O	Sub-code Q sink output (To IC450 91 pin)
15	DQSY	O	Sub-code Q sink (SCOR) output (to IC450 90 pin) of U-bit CD or MD format when DIGITAL-IN source is from CD or MD
16	XRST	I	System reset input. Active at "LOW"
17	TEST4	I	Fixed at "L"
18	CLVSCK	Ø	Not used
19	TEST5	I	Fixed at "L"
20	DOUT	O	Digital audio signal output terminal
21	DIN	I	Digital audio signal input terminal
22	FMCK	Ø	Not used
23	ATER	O	ADIP CRC flag output. "H" = Error (Test point)
24	REC	I	REC./PLAY selector terminal. Recording at "H" and playing at "L".
25	DVSS	Ø	Digital GND
26	DOVF	I	Vbit of signal output from DOUT terminal
27	DOTD	I	Audio input for signal output from DOUT terminal and peak level detection
28	DIDT	O	Audio data input of signal input from DIN terminal
29	DTI	I	Recording audio signal input (From IC390 93 pin)
30	DTO	O	Playback audio signal input (To IC390 93 pin). This input becomes high in impedance during recording.
31	C2PO	O	Outputting C2 pointer of playback data during playback and D.in Vbit during digital recording. "L" during analog recording.
32	BCK	O	64Fs output (2.8224MHz output)
33	LRCK	O	44.1kHz (To IC390 90 pin)
34	XTAO	Ø	Not used
35	XTAI	I	Xtal oscillator input
36	MCLK	Ø	Not used
37	XBACK	Ø	Not used
38	DVDD	Ø	Digital power supply
39	WDCK	Ø	Not used
40	RFCK	Ø	Not used
41	WFCK	Ø	Not used
42	GTOP	O	"H": Opening of sink protector window (Test point)
43	GFS	O	"H": Flame sink OK ()
44	XPLCK	Ø	Not used
45	EFMO	O	EFM (encoder data) output during recording
46	RAOF	O	RAM overflow output during recording (Test point)
47	MVCI	I	Connected to GND
48	TEST2	I	Connected to GND
49	DIPD	O	DIGITAL-IN PLL phase comparator output
50	DVSS	Ø	Digital GND

Pin No.	Symbol	I/O	Function
51	DICVĚ	I	Internal VCO control voltage input for DIGITAL-IN PLL
52	DIFI	I	Filter input when using internal VCO for DIGITAL-IN PLL
53	DIFO	O	Filter output when using internal VCO for DIGITAL-IN PLL
54	AVDD	Ø	Analog power supply
55	ASYO	O	EFM full-swing output during playback. VDD at "H" and VSS at "L"
56	ASYI	I	EFM comparator slice level voltage input during playback
57	BIAS	I	Comparator bias current input during playback
58	RFI	I	RF signal input of EFM during playback
59	AVSS	Ø	Analog GND
60	CLTV	I	Common internal VCO control voltage input for both playback digital PLL master and recording EFM PLL
61	PCO	O	Common phase comparator output for both playback digital PLL master and recording EFM PLL
62	FILI	I	Common filter input for both playback digital PLL master and recording EFM PLL
63	FILO	O	Common filter output for both playback digital PLL master and recording EFM PLL
64	PEAK	I	Light quantity peak hold signal input
65	BOTM	I	Light quantity peak hold signal output
66	ABCD	I	Light quantity signal input
67	FE	I	Focus error signal input
68	AUX1	I	Temperature signal input
69	VC	I	Neutral voltage input
70	ADIO	Ø	Not used
71	TEST3	Ø	Fixed at "L"
72	AVDD	Ø	For analog power supply PLL
73	ADRT	I	Upper limit action range voltage input of A/D converter
74	ADRB	I	Upper limit action range voltage input of A/D converter
75	AVSS	Ø	Analog GND
76	SE	I	Thread error signal input
77	TE	I	Tracking error signal
78	AUX2	I	Connected to GND
79	DCHG	I	Connected to GND
80	TEST6	I	Connected to GND
81	TEST1	I	Connected to GND
82	ADFG	I	ADIP binary FM signal input (22.05kHz). (From IC310 33 pin)
83	TS25	I	Connected to GND
84	LDDR	O	Laser drive output
85	TRDR	O	Tracking servo drive output (-)
86	TFDR	O	Tracking servo drive output (+)
87	FFDR	O	Focus servo drive output (+)
88	DVDD	Ø	Digital power supply
89	FRDR	O	Focus servo drive output (-)
90	FS4	Ø	Not used
91	SRDR	O	Thread servo drive output (-)
92	SFDR	O	Thread servo drive output (+)
93	SPRD	O	Spindle servo drive output (-)
94	SPFD	O	Spindle servo drive output (+)
95	DCLO	O	Spindle servo assessing serial data output
96	DCLI	I	Spindle servo assessing serial data input
97	XDCL	Ø	Not used
98	OFTRK	O	Off-track signal output. "H" = Off-track
99	COUT	O	Track jump number counting signal output
100	DVSS	Ø	Digital GND

■ IC390: CXD2536CR (ATRAC Encoder/Decoder with Built-in memory control)

1. Arrangement of pins

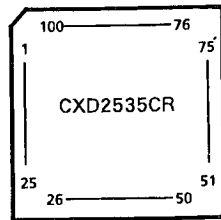


Fig. 49

2. Block diagram

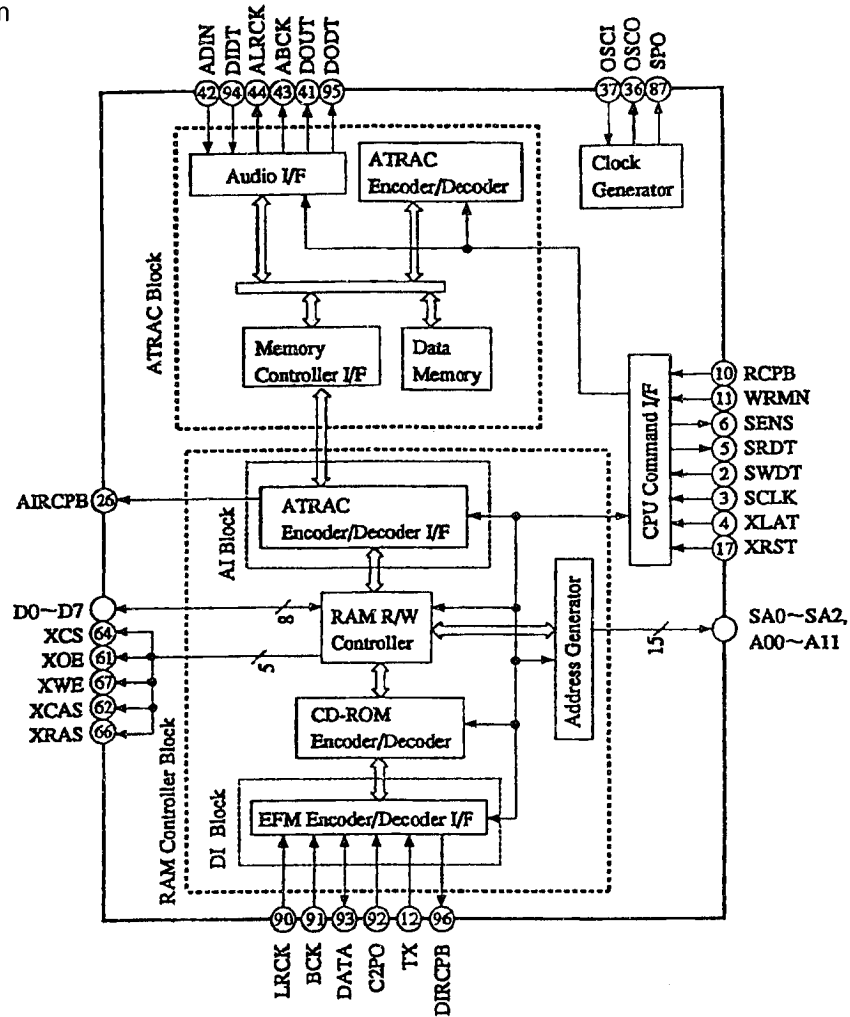


Fig. 50

3. Description of terminals

Pin No.	Symbol	I/O	Function
1	VDD	⌀	Power supply terminal
2	SWDT	I	Microcomputer serial data input terminal (From IC450 15 pin)
3	SCLK	I	Microcomputer serial data shift clock input terminal (From IC450 19 pin)
4	XLAT	I	Microcomputer serial data latch signal input terminal. Latch at trailing (To IC450 11 pin)
5	SRDT	O	Microcomputer serial data output terminal (To IC450 17 pin)
6	SENS	O	Internal status output terminal to serial path address (To IC450 2 pin)
7	SMD0	I	Connected to +5
8	SMD1	I	Connected to +5
9	XINT	O	Interruption request output terminal. "L" when interruption status arises
10	RCPB	I	"L" = Playback mode; "H" = Recording mode
11	WRMN	I	"H" = Light mode; "L" = Monitor mode
12	TX	I	Data output ENABLE signal input terminal at recording mode. Enable at "H"
13	VSS	⌀	Ground terminal
14	TST0	I	Connected to GND
15	TST1	I	Connected to GND
16	TST2	I	Connected to GND
17	XRST	I	Reset input (Reset at "L")
18	TS0	I	Connected to GND
19	TS1	I	Connected to GND
20	TS2	I	Connected to GND
21	TS3	I	Connected to GND
22	TS4	I	Connected to GND
23	TS5	I	Connected to GND
24	TS	I	Connected to GND
25	VSS	⌀	Ground terminal
26	AIRCPB	O	ATRAAC block recording/playback mode output. Recording mode at "H"; playback mode at "L"
27	TST6	⌀	Not used
28	TST7	⌀	Not used
29	TST8	⌀	Not used
30	TST9	⌀	Not used
31	TST10	⌀	Not used
32	TST11	⌀	Not used
33	TST12	⌀	Not used
34	TST13	⌀	Not used
35	TST14	⌀	Not used
36	OSCO	O	Crystal oscillator output terminal
37	OSCI	I	Crystal oscillator input terminal
38	VSS	⌀	Ground terminal
39	TST15	⌀	Not used
40	TST16	⌀	Not used
41	DOUT	O	REC. monitor output/decoding audio data output
42	ADIN	I	Analog recording input terminal
43	ABCK	O	XBCK (64Fs) output terminal to IC460 and IC480
44	ALRCK	O	LRCK (Fs) output terminal to IC460 and IC480
45	SA2	⌀	Not used
46	SA1	⌀	Not used
47	SA0	⌀	Not used
48	A11	⌀	Not used
49	A10	⌀	Not used
50	VSS	⌀	Ground terminal

Pin No.	Symbol	I/O	Function
51	VDD	⌀	Power supply terminal
52	A03	O	RAM address path
53	A02	O	RAM address path
54	A01	O	RAM address path
55	A00	O	RAM address path
56	A04	O	RAM address path
57	A05	O	RAM address path
58	A06	O	RAM address path
59	A07	O	RAM address path
60	A08	O	RAM address path
61	XOE	O	RAM output ENABLE
62	XCAS	O	CAS output of DRAM
63	VSS	⌀	Ground terminal
64	XCS	⌀	Not used
65	A09	O	RAM write ENABLE
66	XRAS	O	RAS output of DRAM
67	XWE	O	RAM light ENABLE
68	D1	I/O	RAM data path
69	D0	I/O	RAM data path
70	D2	I/O	RAM data path
71	D3	I/O	RAM data path
72	D4	⌀	Not used
73	D5	⌀	Not used
74	D6	⌀	Not used
75	VSS	⌀	Ground terminal
76	D7	⌀	Not used
77	ERR	⌀	Not used
78	EXTC2R	I	Connected to ground
79	BUSY	O	Test point TP679
80	EMP	O	Test point TP680
81	FUL	O	Test point TP681
82	EQL	O	Test point TP682
83	MDLK	O	Test point TP683
84	CPSY	O	Test point TP684
85	CTMD0	⌀	Not used
86	CTMD1	⌀	Not used
87	SPO	O	512Fs output
88	VSS	⌀	Ground terminal
89	NDSY	O	Test point TP689
90	LRCK	I	LRCK (Fs) input from EFM encoder/decoder (IC350)
91	BCK	I	BCK (64Fs) input from EFM encoder/decoder (IC350)
92	C2PO	I	CNPO input (TP692) from EFM decoder (IC350)
93	DATA	I/O	Input/output data from decoder during playback and to encoder during recording (IC350 29 & 30 pins)
94	DIDT	I	Digital recording input terminal
95	DODT	O	REC. monitor output/decoding audio data output
96	DIRCPB	O	Recording/playback mode output to EFM encoder/decoder
97	MIN	I	Defect detector signal monitor input
98	TST17	I	Connected to test terminal VDD
99	TST18	⌀	Not used
100	VSS	⌀	Ground terminal

■ IC480: SAA7366T or SAA7367T (A/D converter)

1. Arrangement of pins

SFOR	1	24	SLAVE
STDB	2	23	VDDA
OVLD	3	22	VREFL
CKIN	4	21	BIL
VDD	5	20	BOL
VSS	6	19	VDACP
SDO	7	18	VDACN
SWS	8	17	BOR
SCK	9	16	BIR
TEST 1	10	15	VREFR
HPEN	11	14	IREF
TEST B	12	13	VSSA

Fig. 51

2. Block diagram

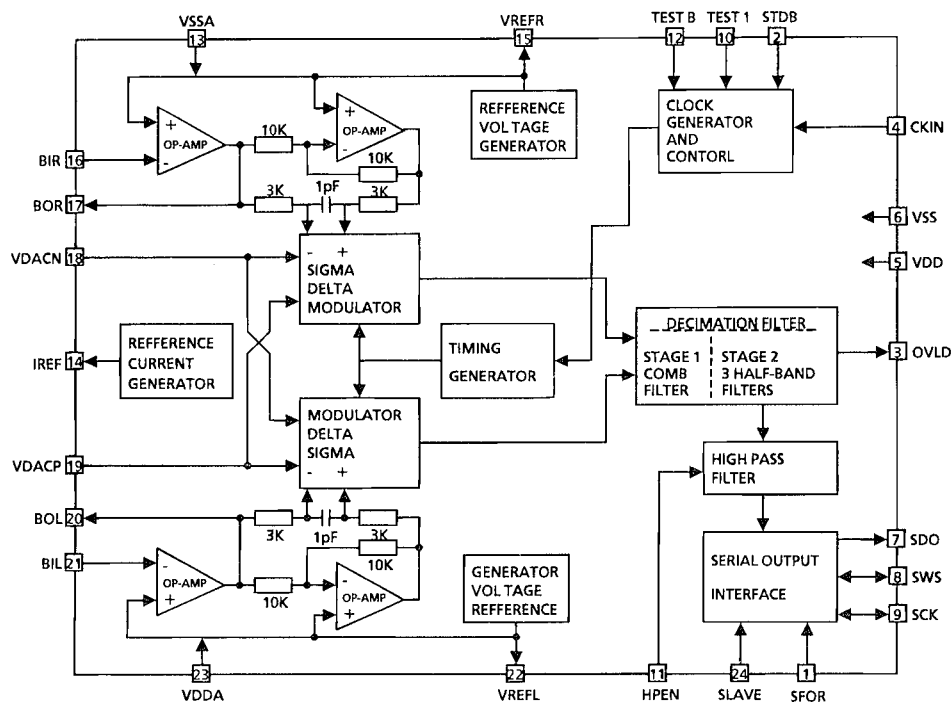


Fig. 52

3. Description of Terminals

Pin No.	Symbol	I/O	Function
1	SFOR	I	Connected to VDD
2	STDB	I	Connected to VDD
3	OVL	O	Clock from IC350 (256Fs)
4	CKIN	I	Clock from IC350 (256Fs)
5	VDD	—	Digital service power supply (5V)
6	VSS	—	Digital ground
7	SDO	O	Analog recording output terminal
8	SWS	I	LRCK input
9	SCK	I	BCK input
10	TEST1	I	Connected to ground
11	HPEN	I	Connected to VDD
12	TESETB	I	Connected to VDD

Pin No.	Symbol	I/O	Function
13	VSSA	—	Analog ground
14	IREF	—	Current reference mode
15	VREFR	—	Reference voltage for Rch (VDDA/2)
16	BIR	I	Internal operation amp. inverter input for Rch
17	BOR	O	Internal operation amp. output for Rch
18	VDACN	I	Reference voltage
19	VDACP	I	Reference voltage
20	BOL	O	Internal operation amp. output for Lch
21	BIL	I	Internal operation amp. inverter input for Lch
22	VREFL	—	Reference voltage for Lch (VDDA/2)
23	VDDA	—	Analog power supply (5V)
24	SLAVE	I	Slave (5V)

■ IC460: TDA1386T (Noise shaping filter-DAC)

1. Arrangement of pins

VDDA	1	24	VDDO
VSSA	2	23	VSSO
TEST1	3	22	VREF
BCK	4	21	VOR
WS	5	20	FILTCL
DATA	6	19	FILTCL
CKSL1	7	18	VOL
CKSL2	8	17	APP0
VSSD	9	16	APP1
VDDD	10	15	APP2
TEST2	11	14	APPL
SYSCLK	12	13	APP3

Fig. 53

2. Block diagram

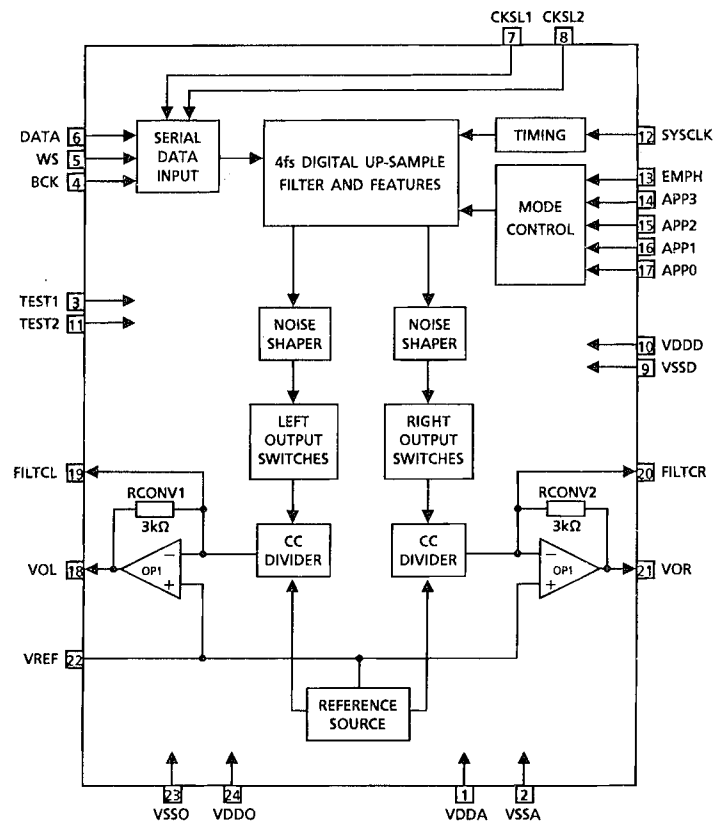


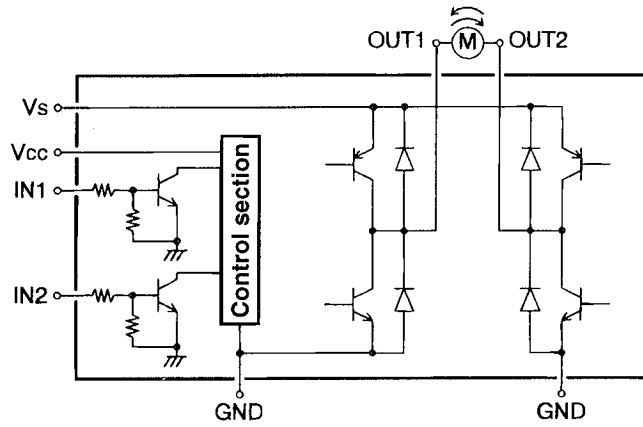
Fig. 54

3. Description of Terminals

Pin No.	Symbol	I/O	Function
1	VDDA	—	Analog service power supply (5V)
2	VSSA	—	Analog ground
3	TEST1	—	Connected to ground
4	BCK	I	Bit clock from IC390 (64Fs)
5	WS	I	Word select from IC390 (Fs)
6	DATA	I	Data from IC390
7	CKSL1	I	Connected to ground
8	CKSL2	I	Connected to VDD
9	VSSD	—	Digital ground
10	VDDD	—	Digital service power supply (5V)
11	TEST2	—	Connected to ground
12	SYSCLK	I	Clock from IC350 (256fs)

Pin No.	Symbol	I/O	Function
13	EMPH	I	Playback signal emphasis ON/OFF signal
14	APP3	I	Connected to ground
15	AMUTE	I	Audio output mute terminal
16	APP1	I	Connected to VDDD
17	APP0	I	Connected to VDDD
18	VOL	O	Lch output
19	FILTCL	I	Audio analog filter input Lch
20	FILTCL	I	Audio analog filter input Rch
21	VOR	O	Rch output
22	VREF	—	Reference voltage (0.5VDDO type)
23	VSSO	—	Ground for internal operation amp.
24	VDDO	—	Power supply to internal operation amp. (5V)

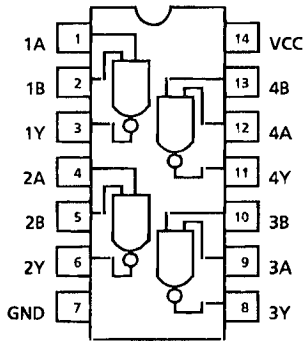
■ IC440: LB1638 (DC motor driver)



IN 1	IN 2	OUT 1	OUT 2	Mode
H	L	H	L	Forward
L	H	L	H	Reverse
H	H	L	L	Brake
L	L	OFF	OFF	Standby

Fig. 55

■ TC74HCOOAFTP-1 (IC430): 2CH NAND gate

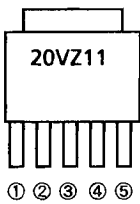


Truth value table

A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

Fig. 56

■ PQ20VZ11 (IC400): Regulator



Terminal description

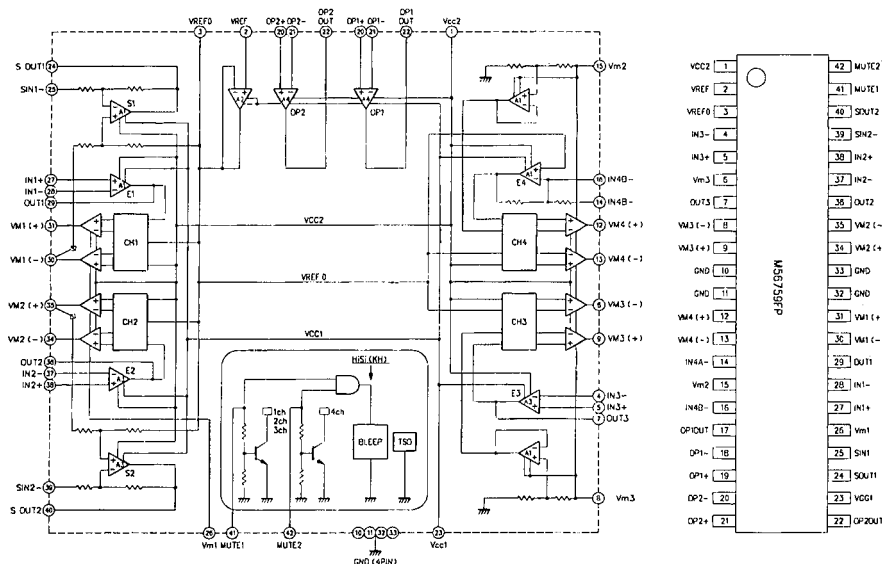
Pin No.	Symbol	I/O	Outline of functions
1	Vin	I	DC input
2	Vc	I	ON/OFF control
3	Vo	O	DC output
4	Vadj	I	Output voltage regulation
5	GND	--	Ground (GND)

Fig. 57

■IC410: M56759FP (4 channel BTL driver) Terminal

Pin No.	Symbol	I/O	Function
1	VCC2		Bootstrap power supply terminal
2	VREF		Reference voltage input terminal
3	VREF0		Reference voltage output terminal
4	IN3-		E3 amp. inversion input terminal
5	JN3+		E3 amp. non-inversion input terminal
6	Vm3		3ch motor power supply terminal
7	OUT3		E3 amp. output terminal
8	VM3 (-)		CH3 inversion output terminal
9	VM3 (+)		CH3 non-inversion output terminal
10	GND		GND
11	GND		GND
12	VM4 (+)		CH4 non-inversion output terminal
13	VM4 (-)		CH4 inversion output terminal
14	IN4A-		E4 amp. inversion input terminal A
15	Vm2		4ch motor power supply terminal
16	IN4B-		E4 amp. inversion input terminal B
17	OP1OUT		OP1 amp. output terminal
18	OP-		OP1 amp. inversion input terminal
19	OP1-		Op1 amp. non-inversion input terminal
20	OP2+		OP2 amp. non-inversion input terminal
21	OP2-		OP2 amp. inversion input terminal

Pin No.	Symbol	I/O	Function
22	OP2OUT		OP2 amp. output terminal
23	VCC1		Small signal power supply terminal
24	SOUT1		S1 amp. output terminal
25	SIN1-		S1 amp. inversion input terminal
26	Vm1		1ch and 2ch motor power supply terminal
27	IN1+		E1 amp. non-inversion input terminal
28	IN1-		E1 amp. inversion input terminal
29	OUT1		E1 amp. output terminal
30	VM1 (+)		CH1 inversion output terminal
31	VM1 (-)		CH1 non-inversion output terminal
32	GND		GND
33	GND		GND
34	VM2 (+)		CH4 non-inversion output terminal
35	VM2 (-)		CH2 inversion output terminal
36	OUT2		E2 amp. output terminal
37	IN2-		E2 amp. inversion input terminal
38	IN2+		E2 amp. non-inversion input terminal
39	SIN2-		S2 amp. inversion input terminal
40	SOUT2		S2 amp. output terminal
41	MUTE1		CH1 ~ CH3 mute terminal
42	MUTE2		CH4 mute terminal

Block diagram**Fig. 58**

<<memo>>

Block Diagrams

- Flow of various signals in MD section
(1) Playback signal

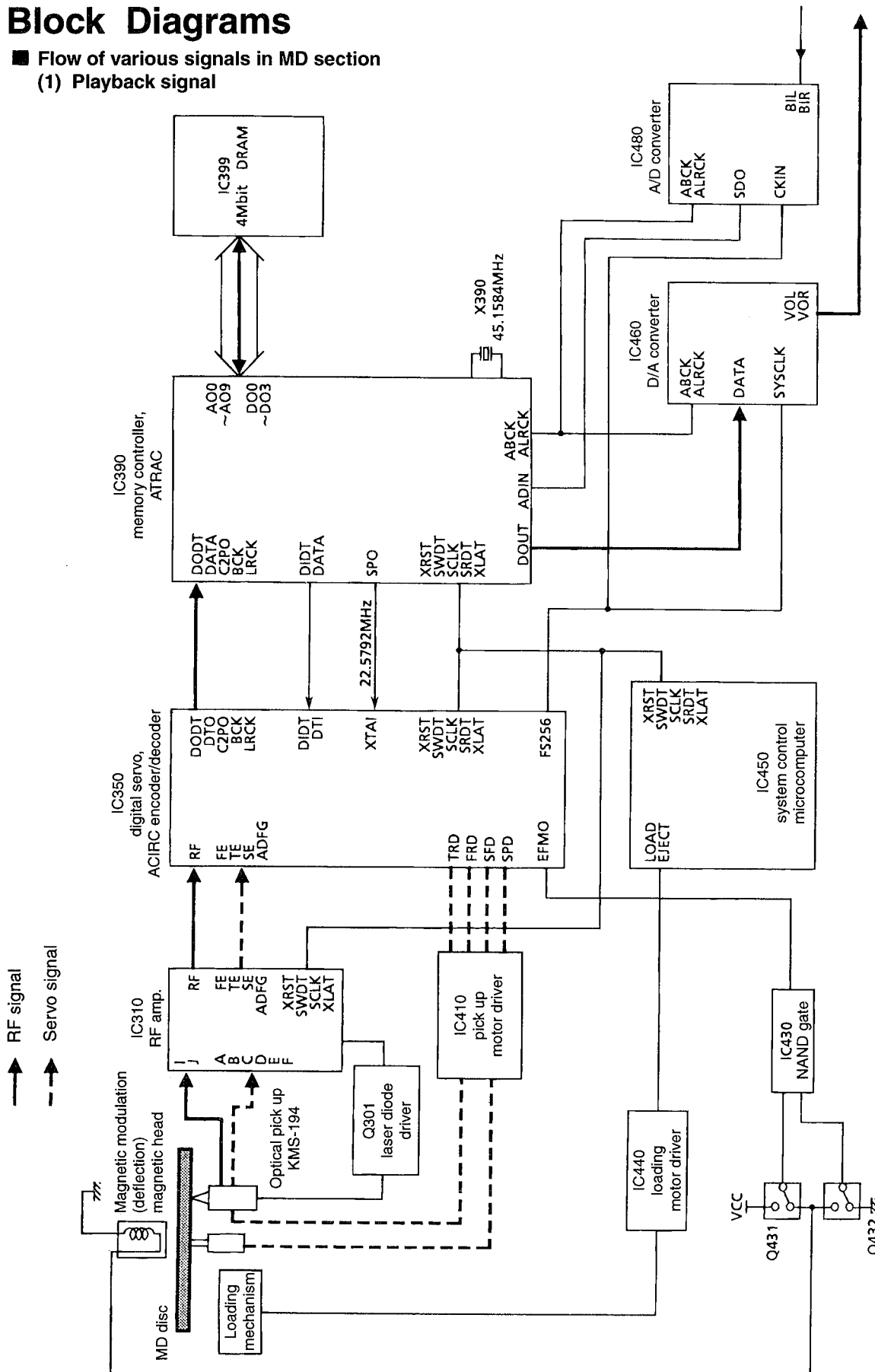


Fig. 59

(2) Recording signal (analogue input during tuner recording)

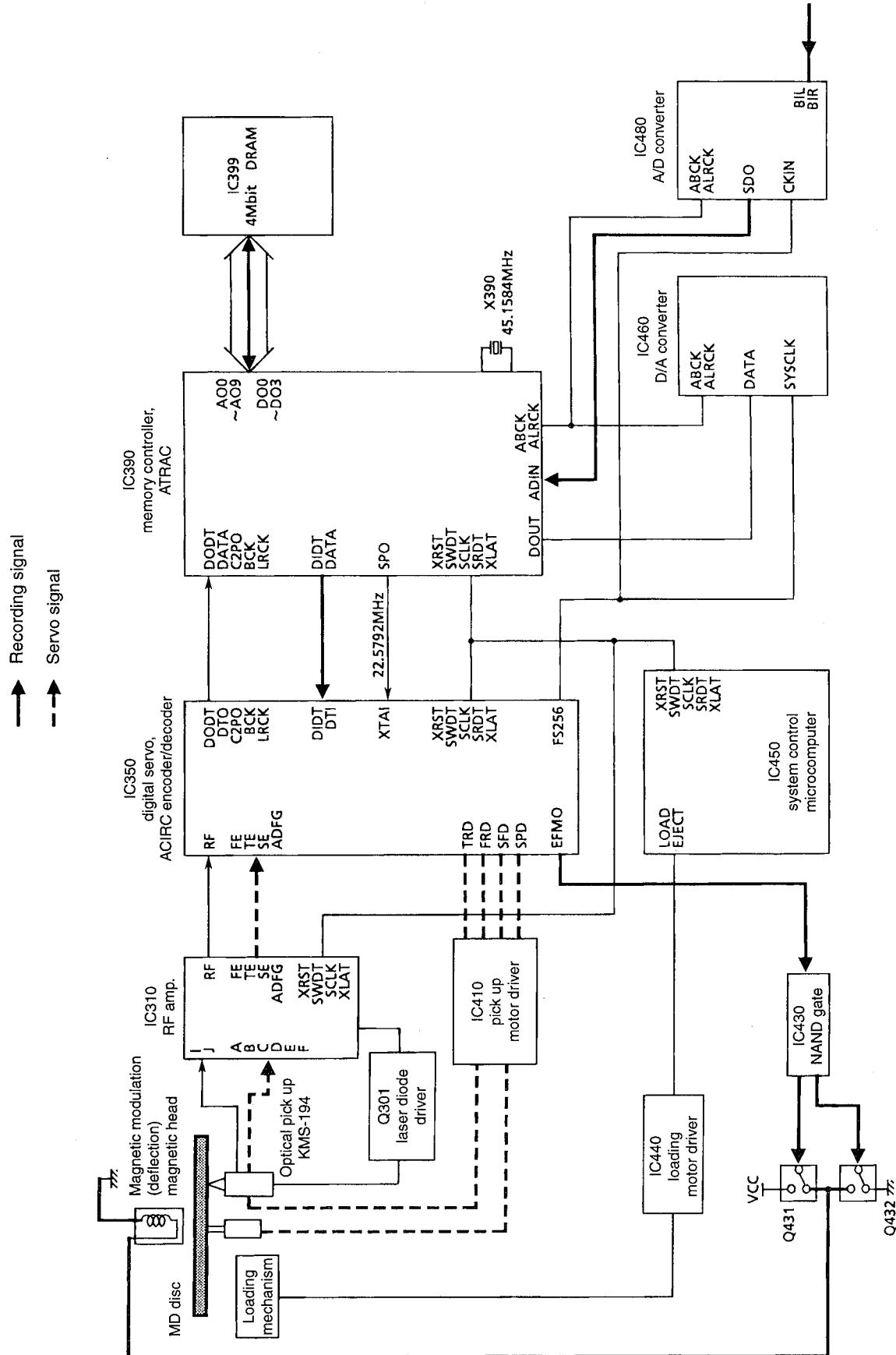


Fig. 60

(3) Recording signal (Digital input during CD)

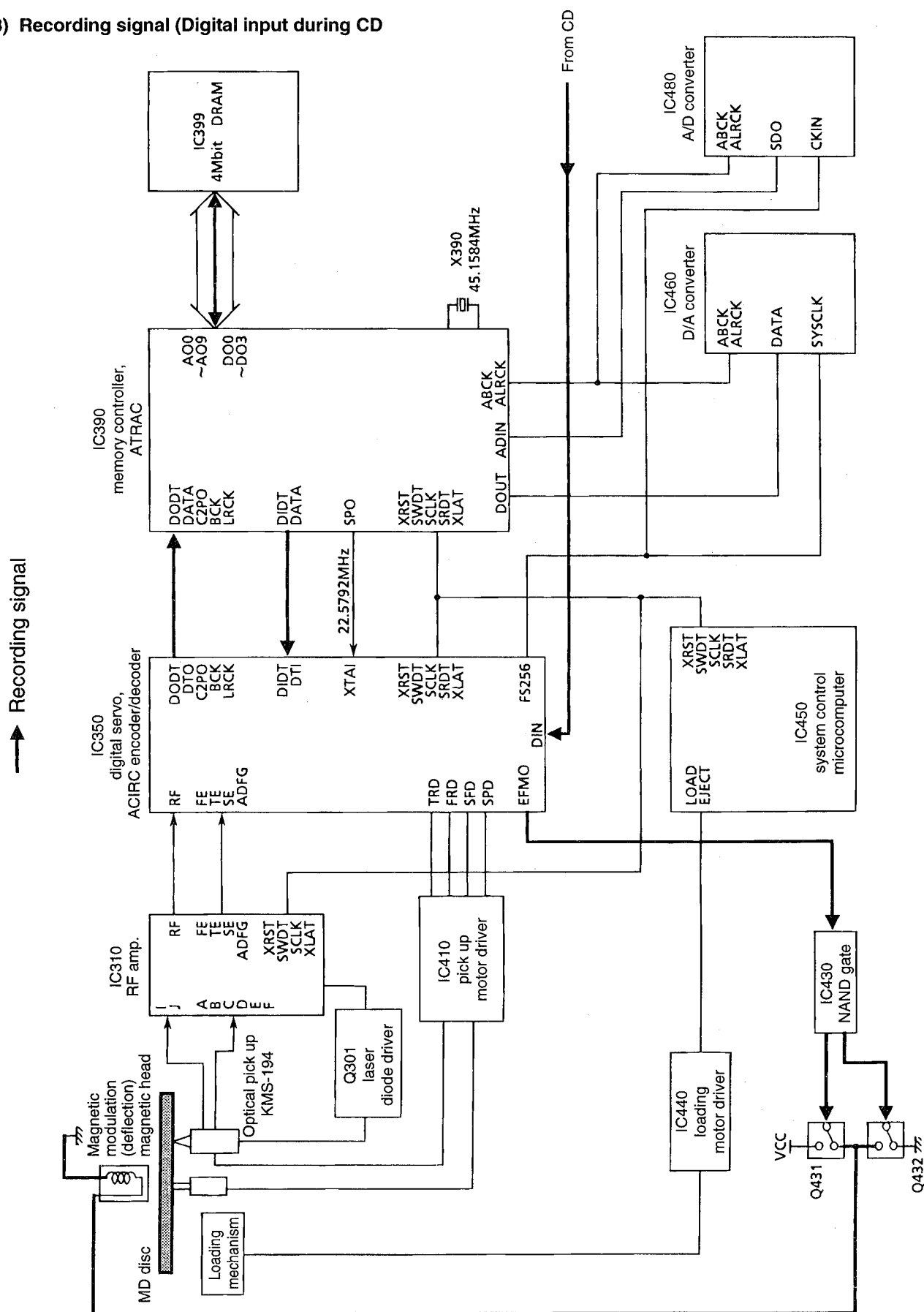


Fig. 61

(4) Disc loading and eject signal

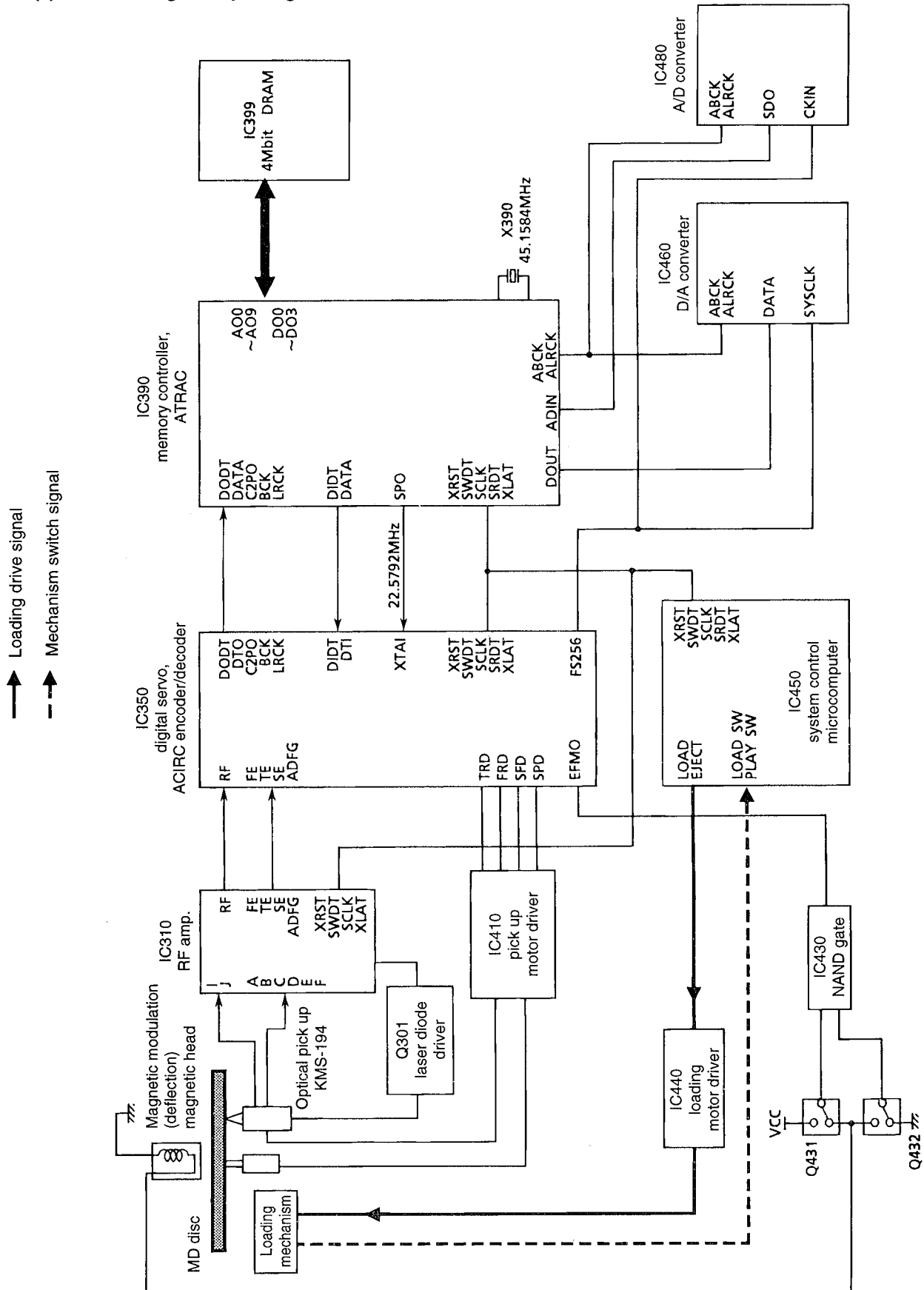


Fig. 62

(5) Pick up laser power control signal

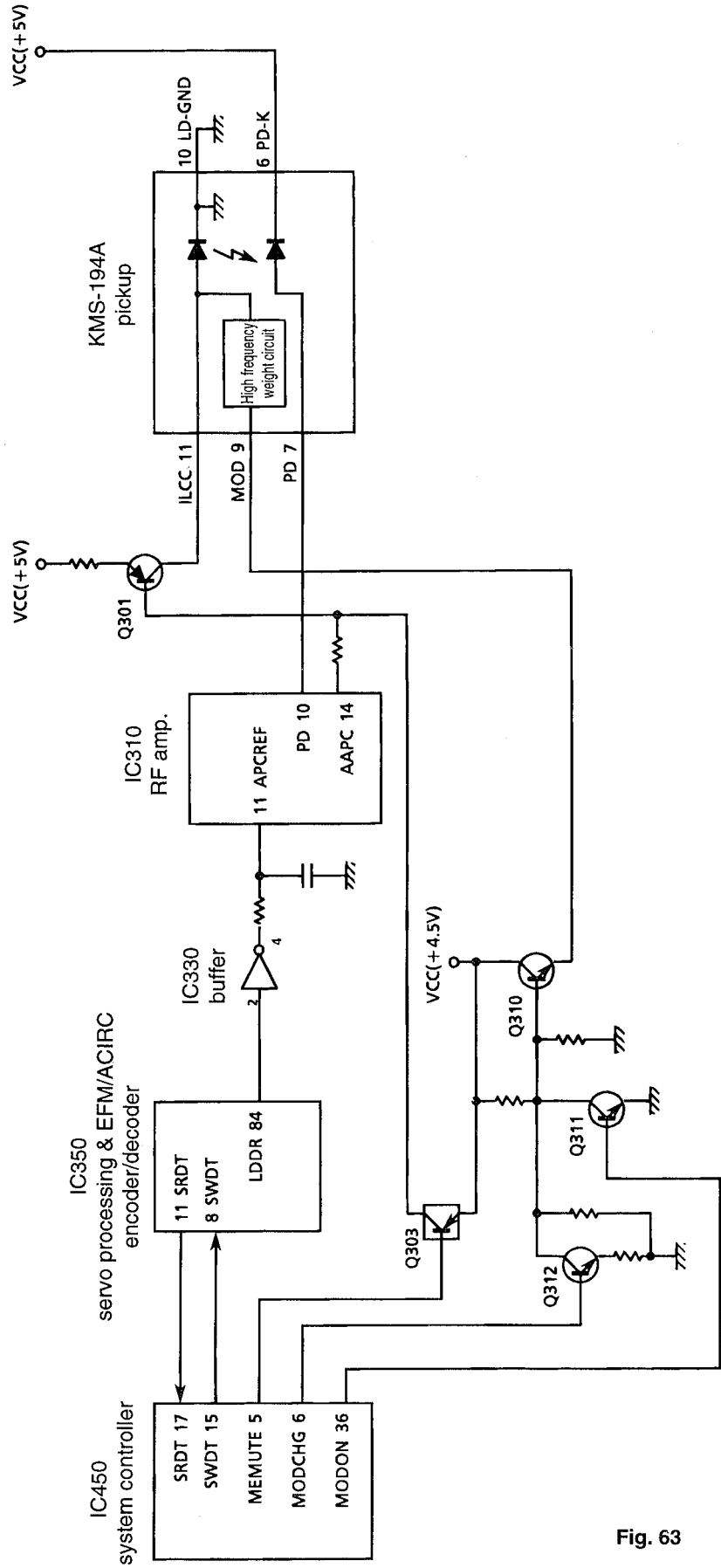
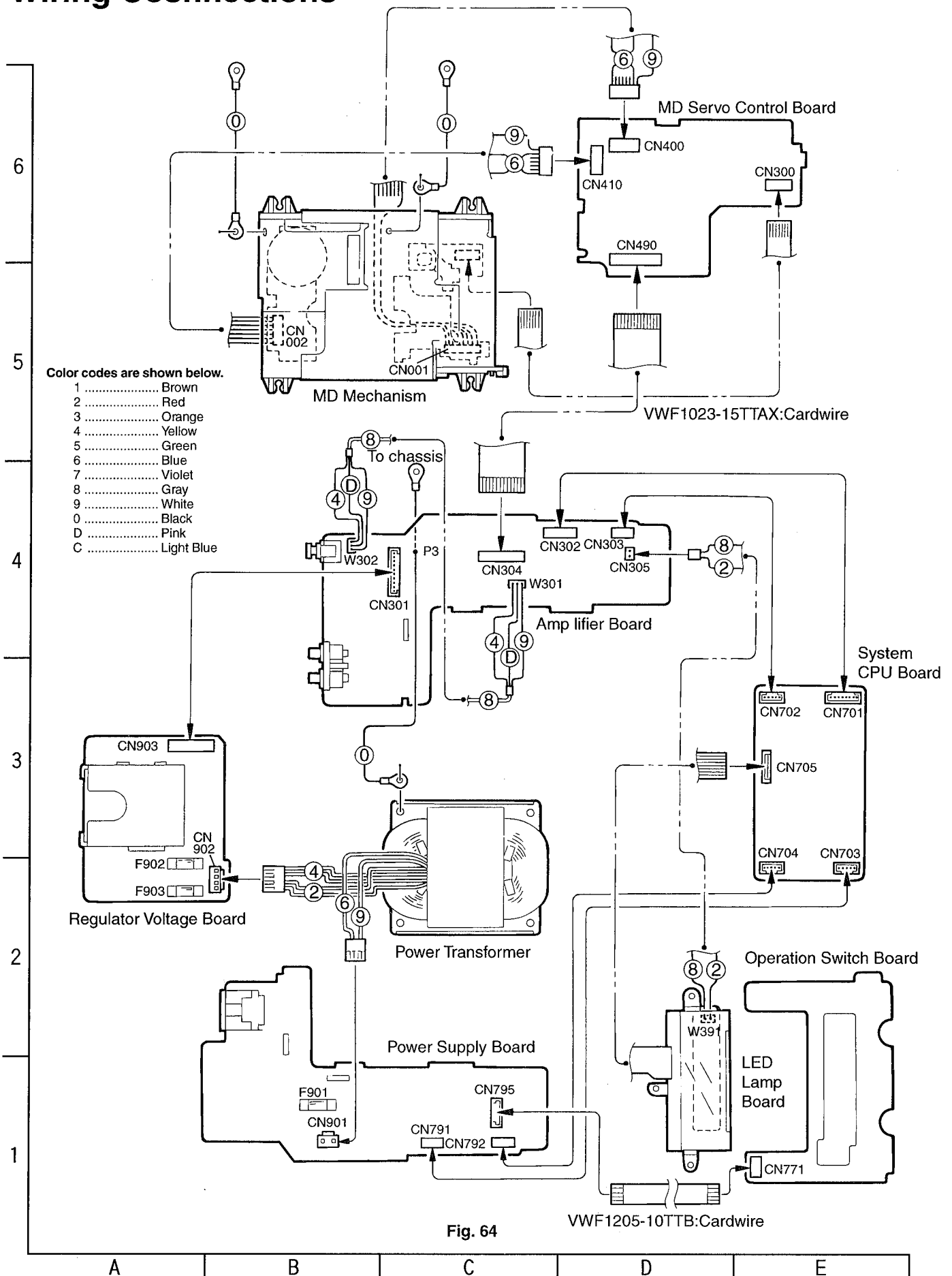


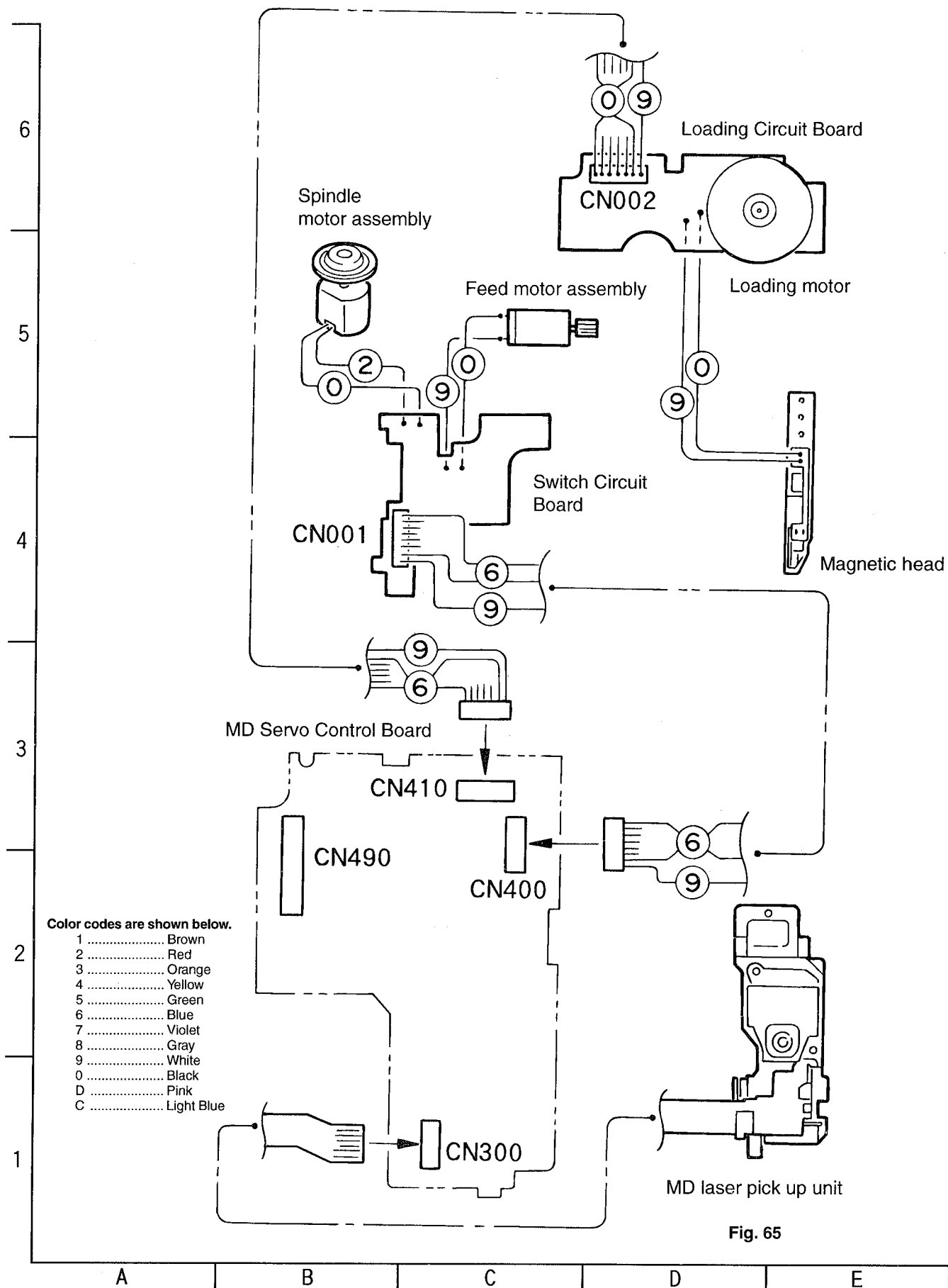
Fig. 63

- (1) Adjust the laser power to 0.68mW with the REC. START and TRACK MARKING keys. - Playback laser power
- (2) Adjust the laser power to 6.23mW with the REC. START and TRACK MARKING keys. - Recording laser power

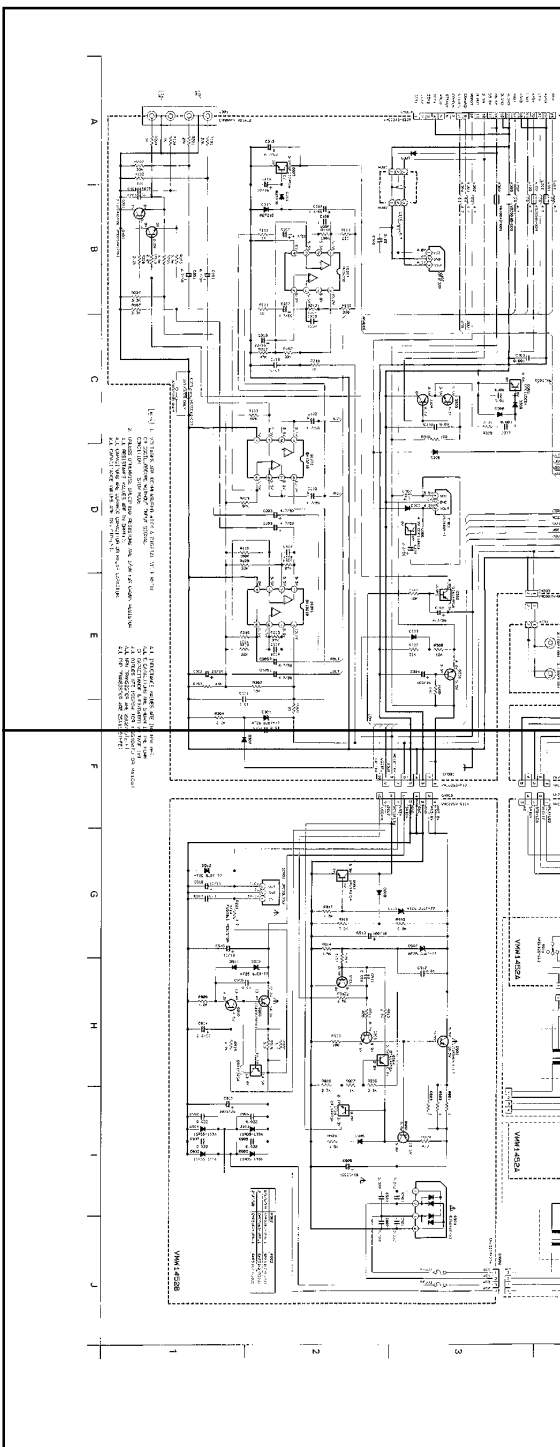
Wiring Connections



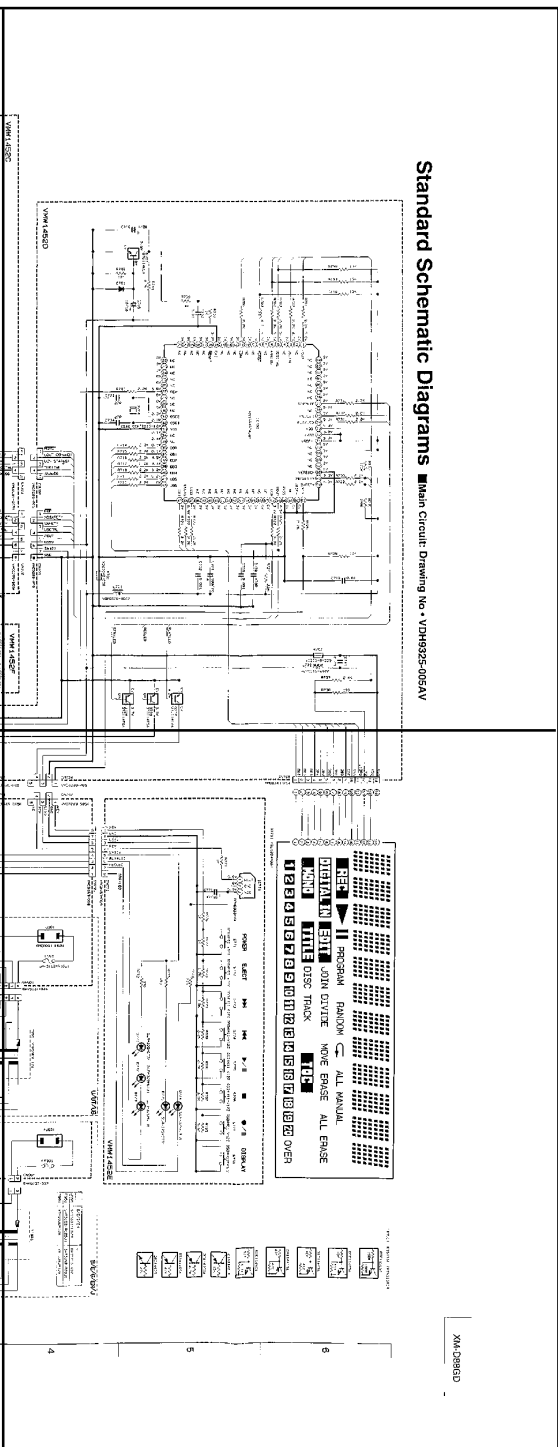
■ MD Mechanism section



P8-1-a



P8-1-b

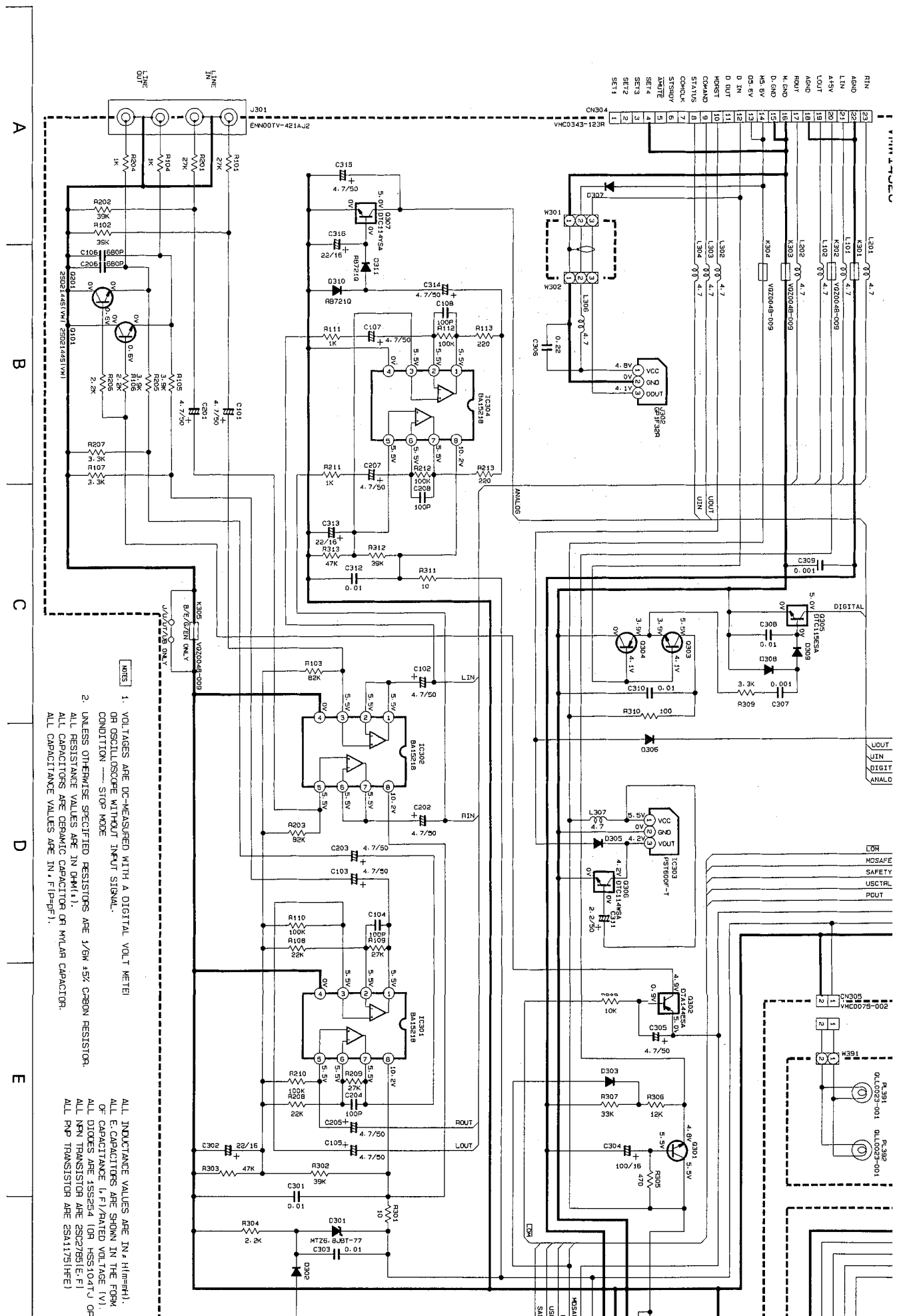


P8-1-c

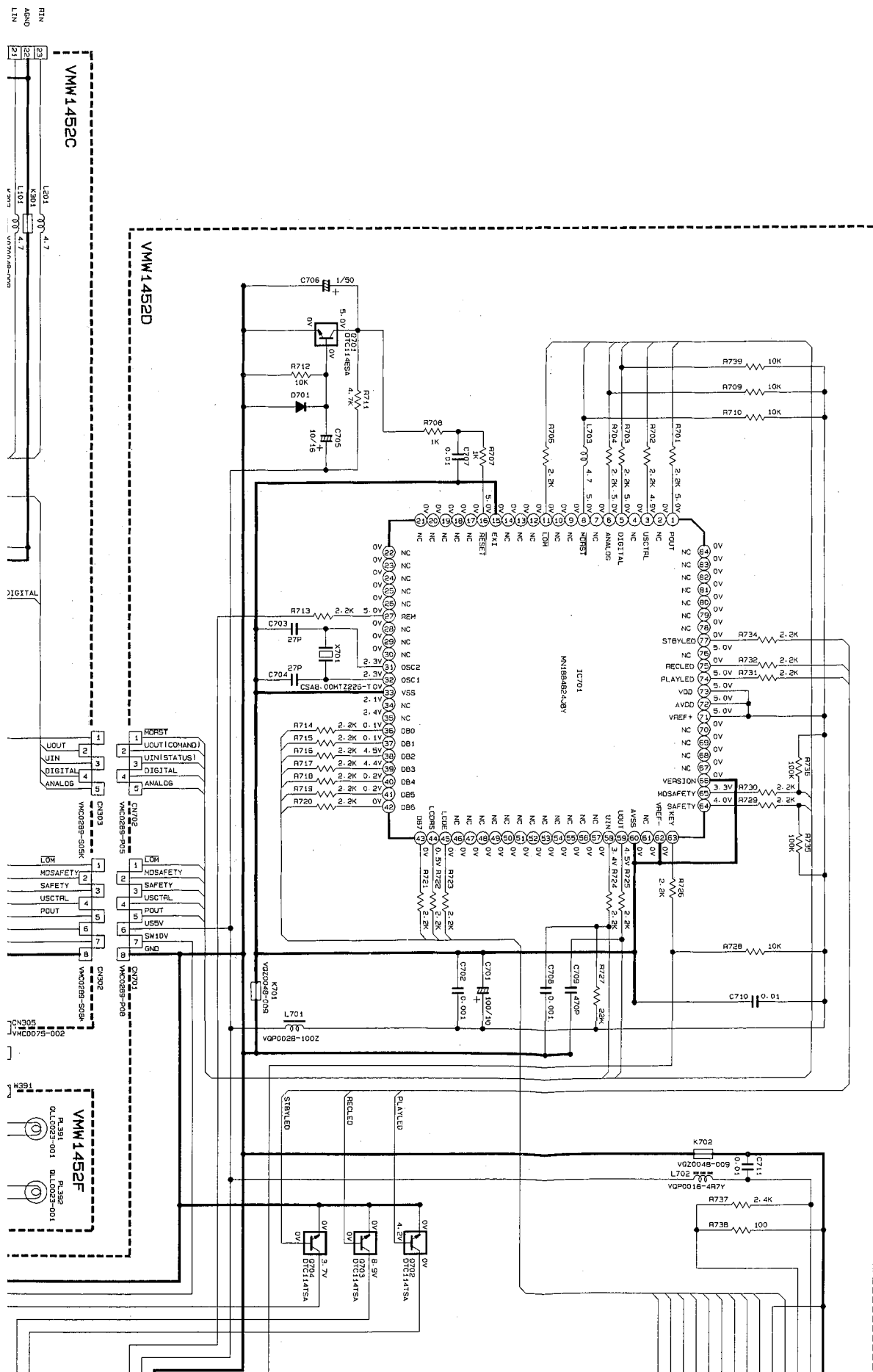


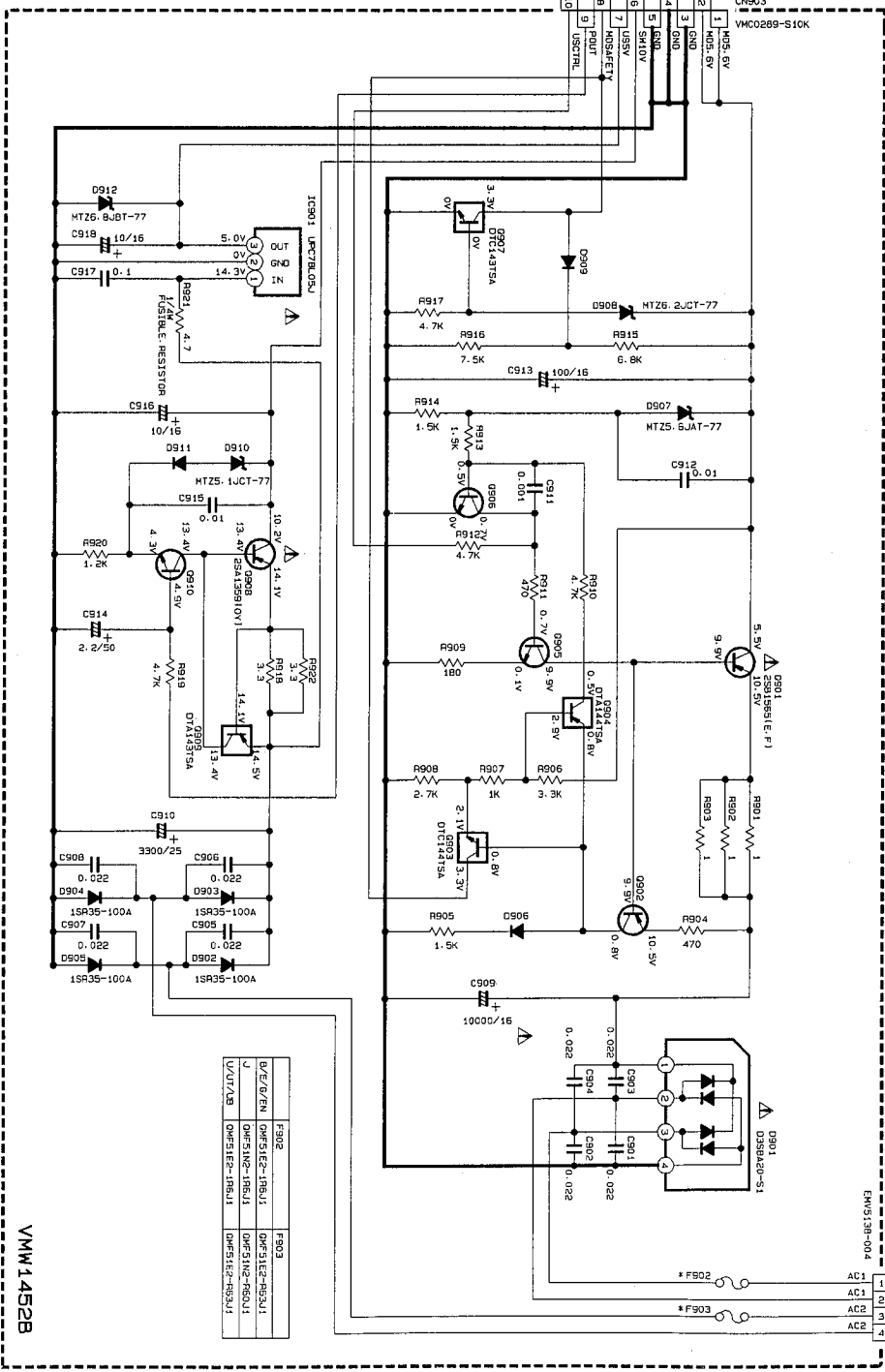
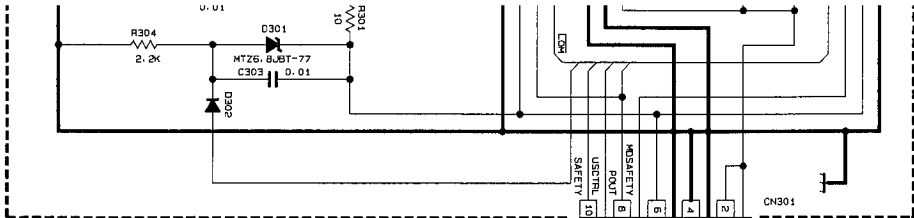
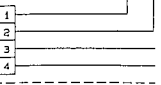
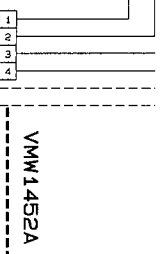
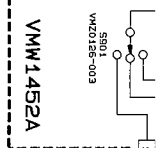
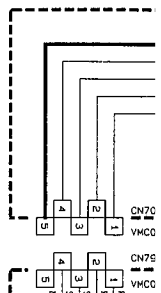
P8-1-d





Standard Schematic Diagrams ■ Main Circuit: Drawing No. VDH9325-005AV

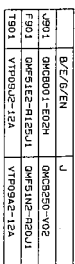
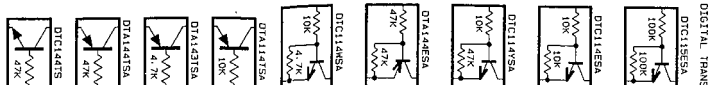
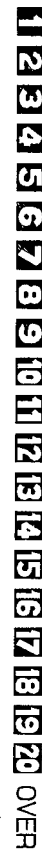




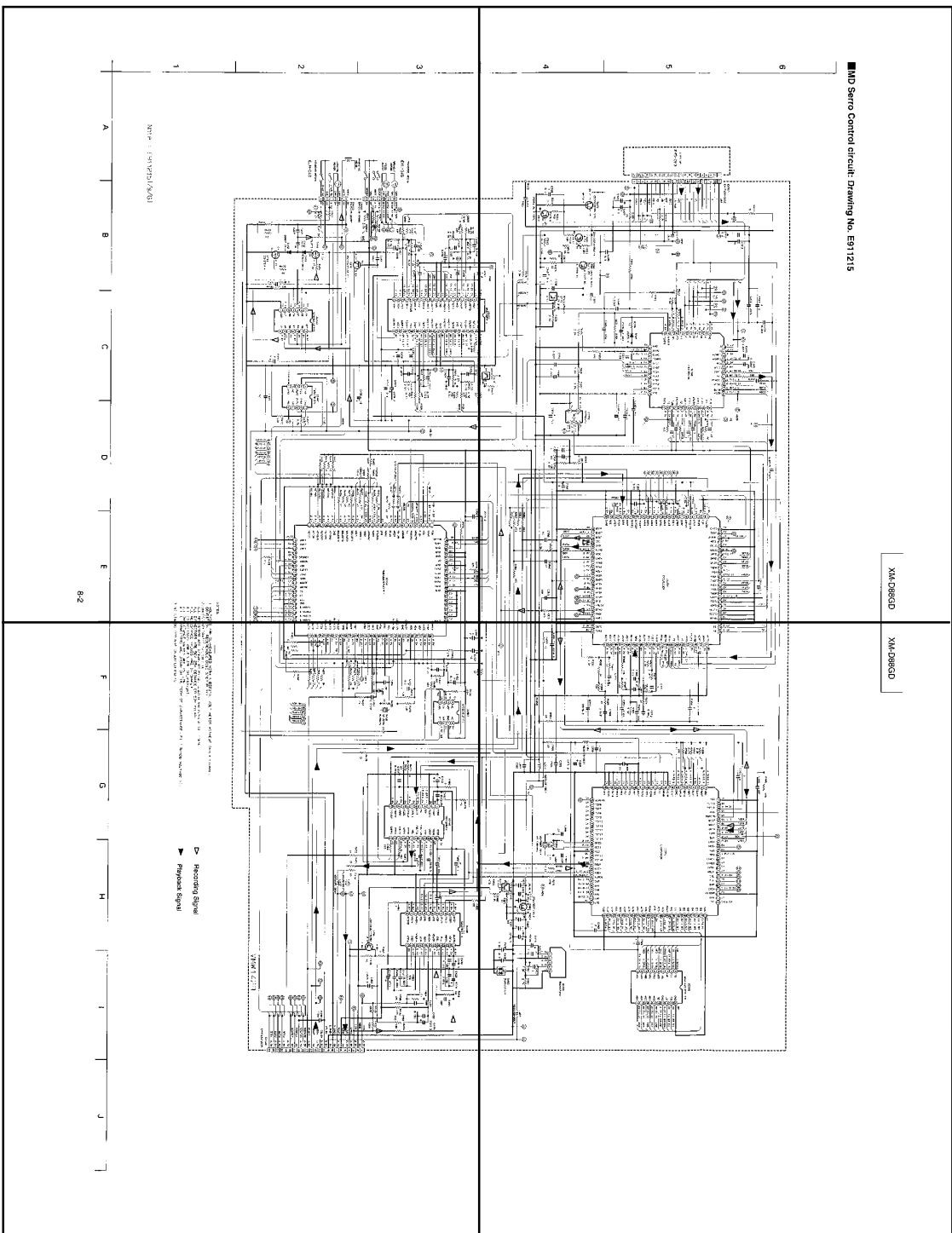
U/E/B/F/N	F302	F303
J	0W51E2-17B.U1	0W51E2-17B.U1
U/U1/V3	0W51E2-17B.U1	0W51E2-17B.U1

3S ARE IN # H100MH.
 2 SHOWN IN THE FORM
 1/RATED VOLTAGE (V).
 54 100 HSS1047J OR MA165)
 THE 2502785(E,F)
 THE 25A1175(HFE)

F G H I J



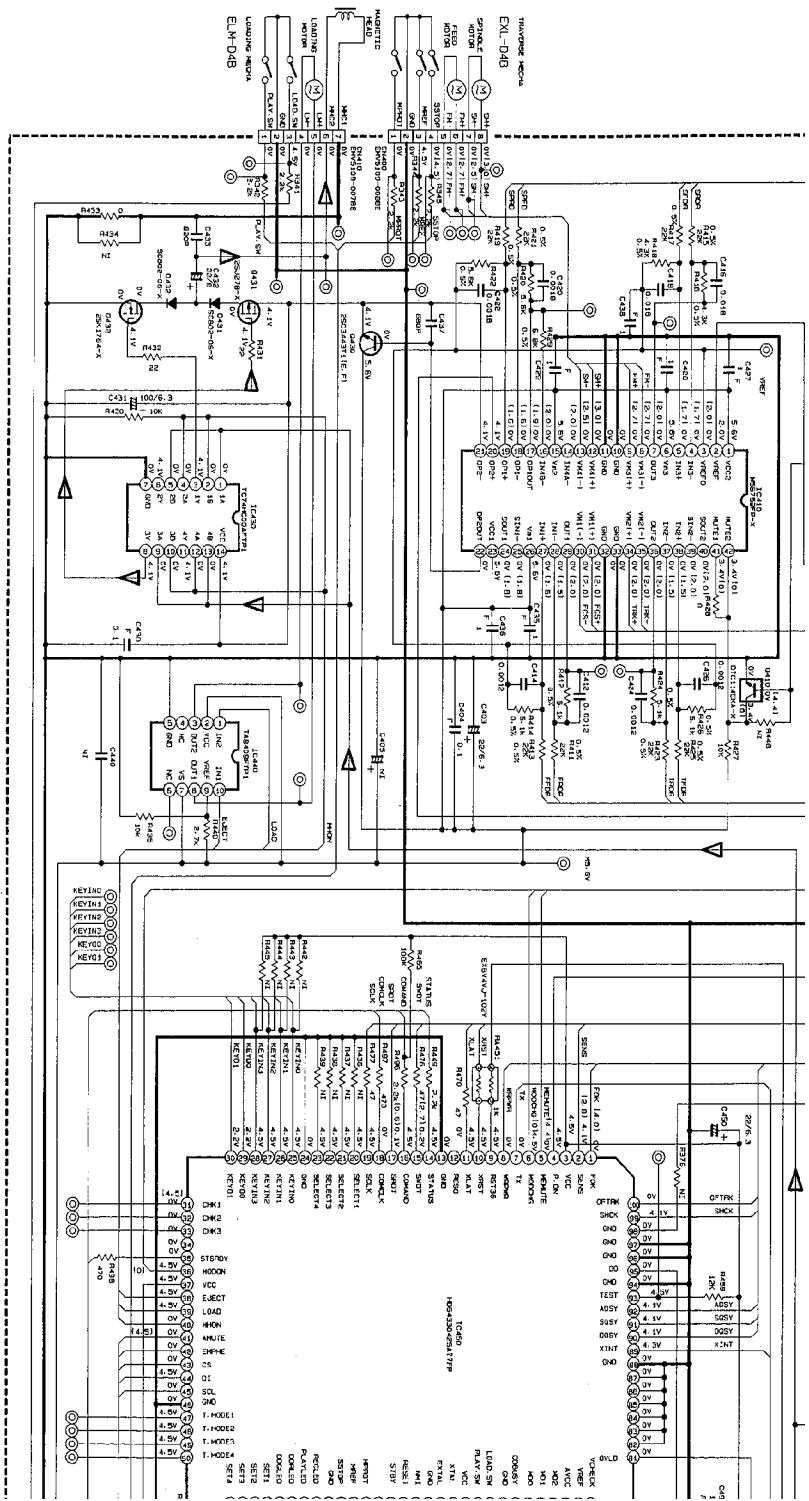
P8-2-a



P8-2-b

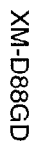
P8-2-c

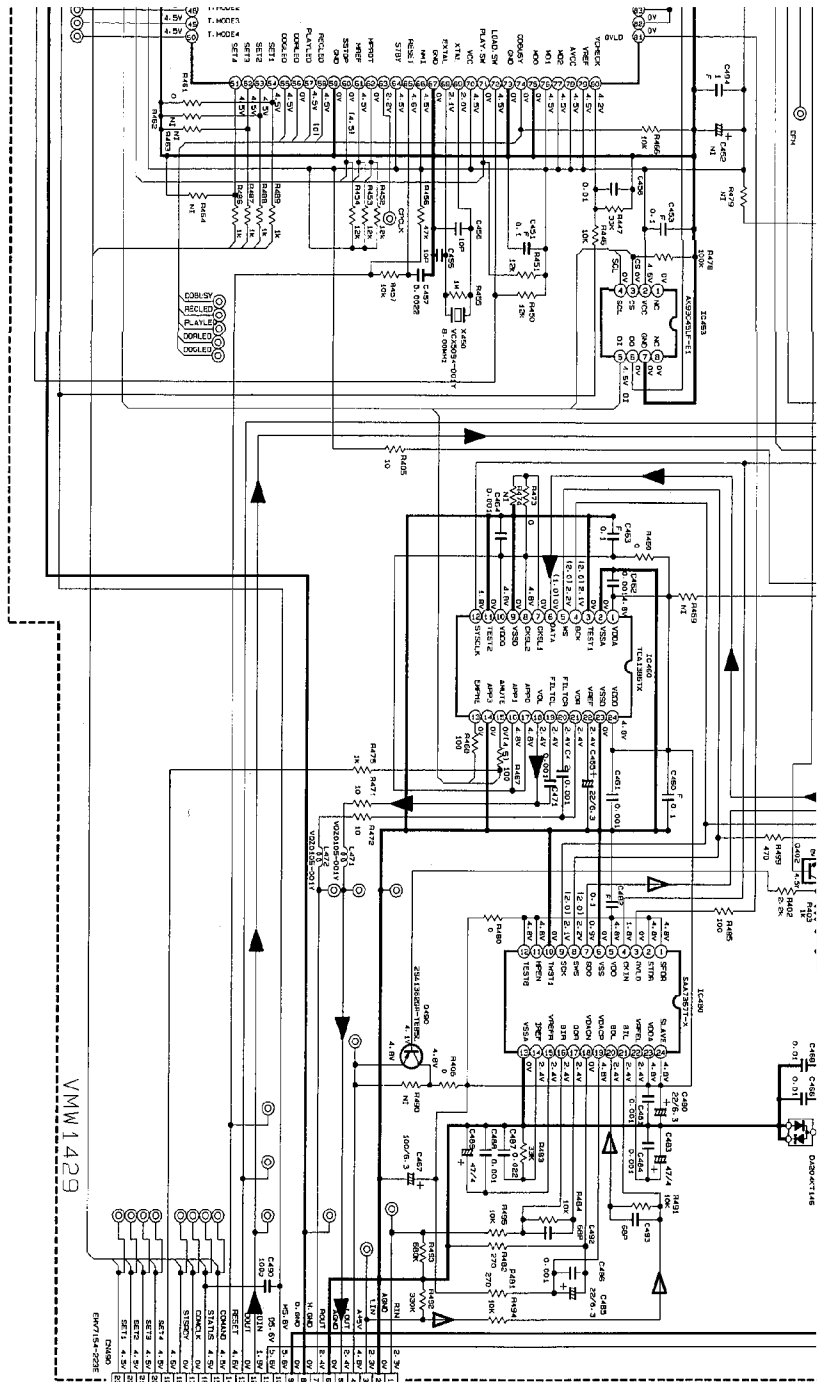
P8-2-d



Note : E912151(S/G)

- NOTES
1. NO. TAGS ARE CONDITION
 2. LINES OTHER ALL CAPACIT
 3. ALL RESISTAN
 4. ALL INDUCTIV
 5. ALL E. CAPACI
 6. 3-NT STANDS FC



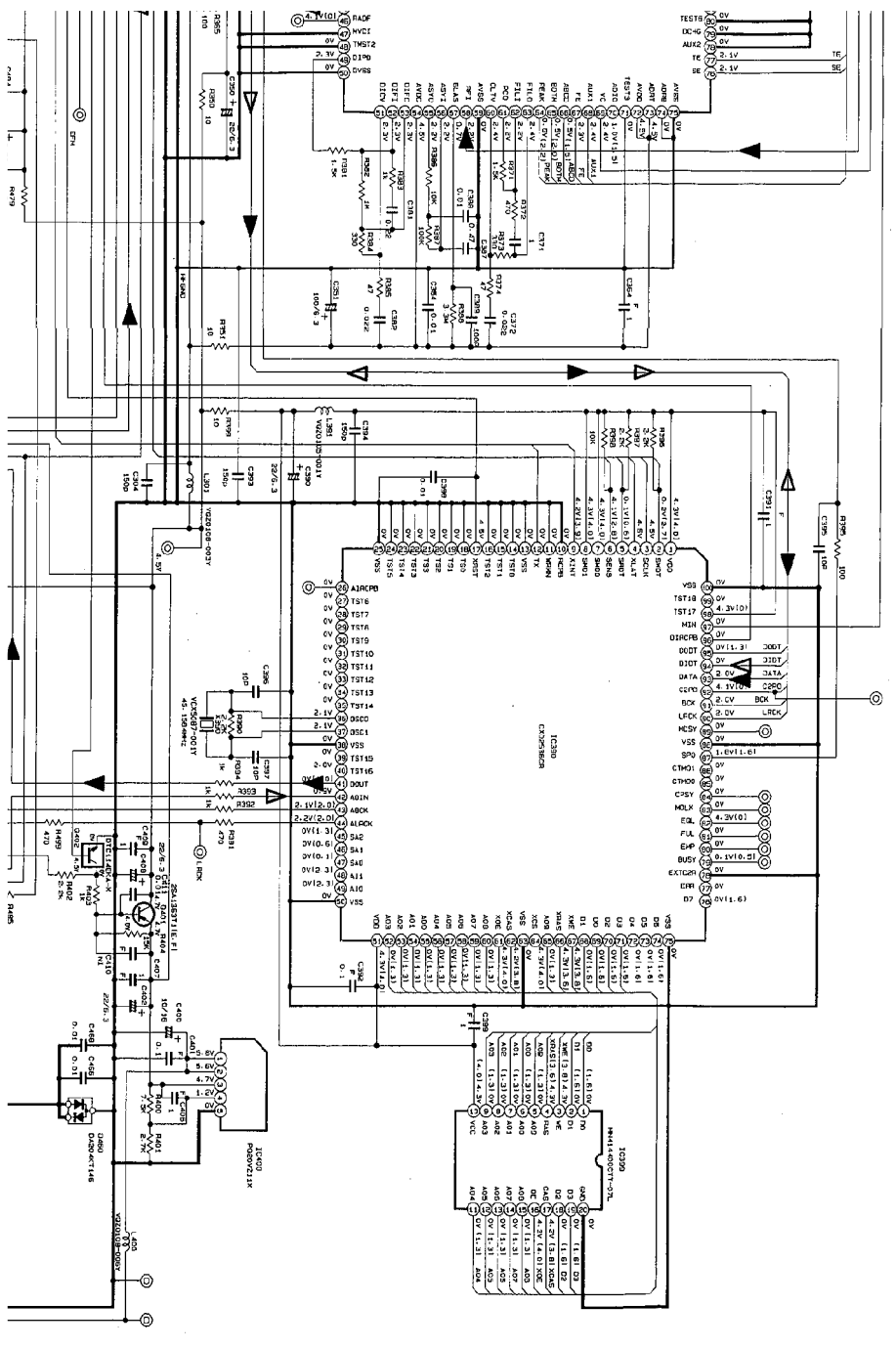


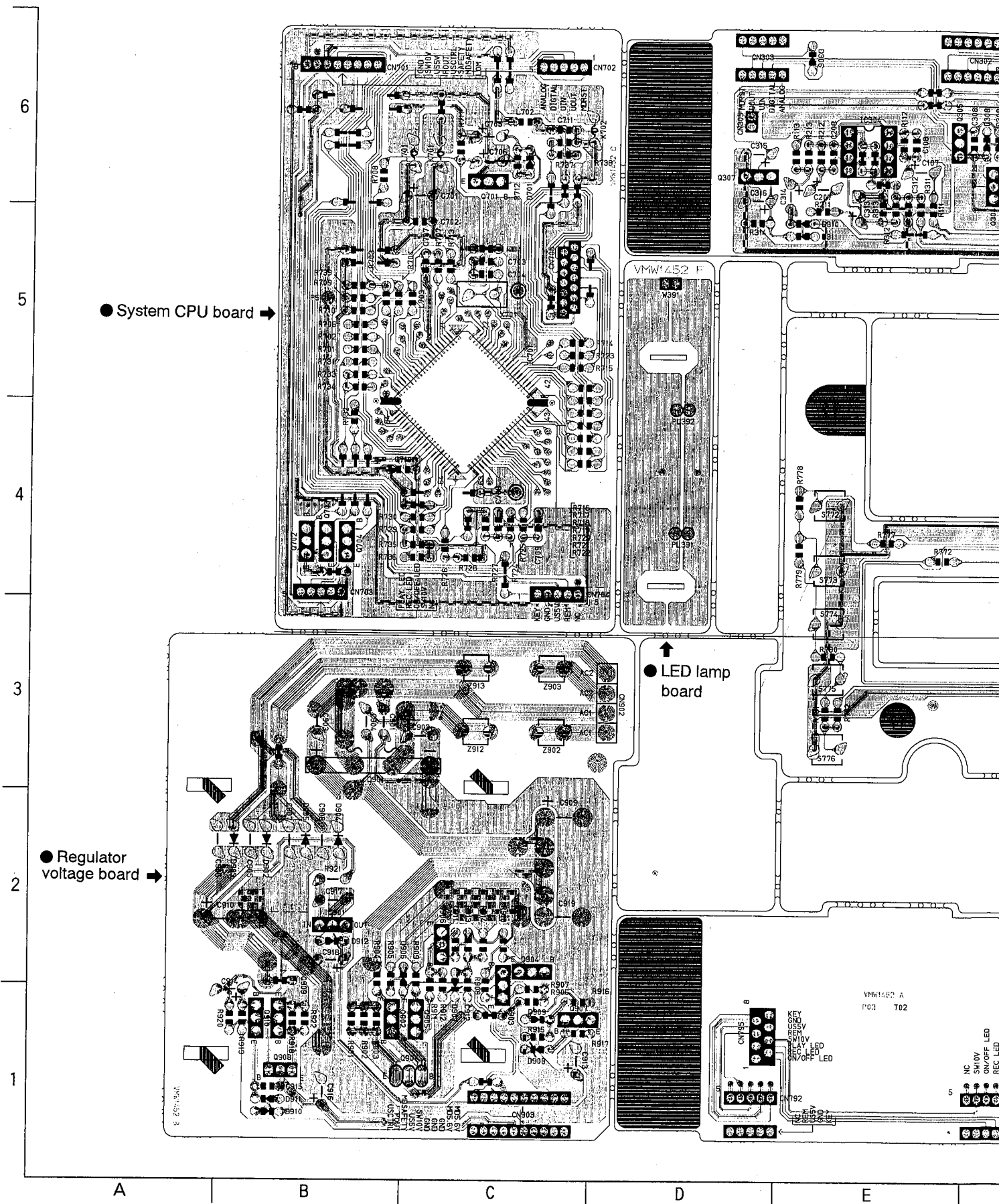
3

1. STAGES ARE DC-BIASED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
 NOTATION: RECORDABLE DISC STOP (R.A.V.)
 LESS OTHERWISE SPECIFIED:
 CAPACITORS ARE 50% TOL. 0.5% METAL FILM.
 RESISTANCE VALUES ARE IN OHMS.
 DIMENSIONAL VALUES ARE IN INCHES.
 CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (F) / RATED VOLTAGE (V).
 STANDS FOR NOT INSERTED PARTS.

▷ Recording Signal
 ▶ Playback Signal

F G H I J

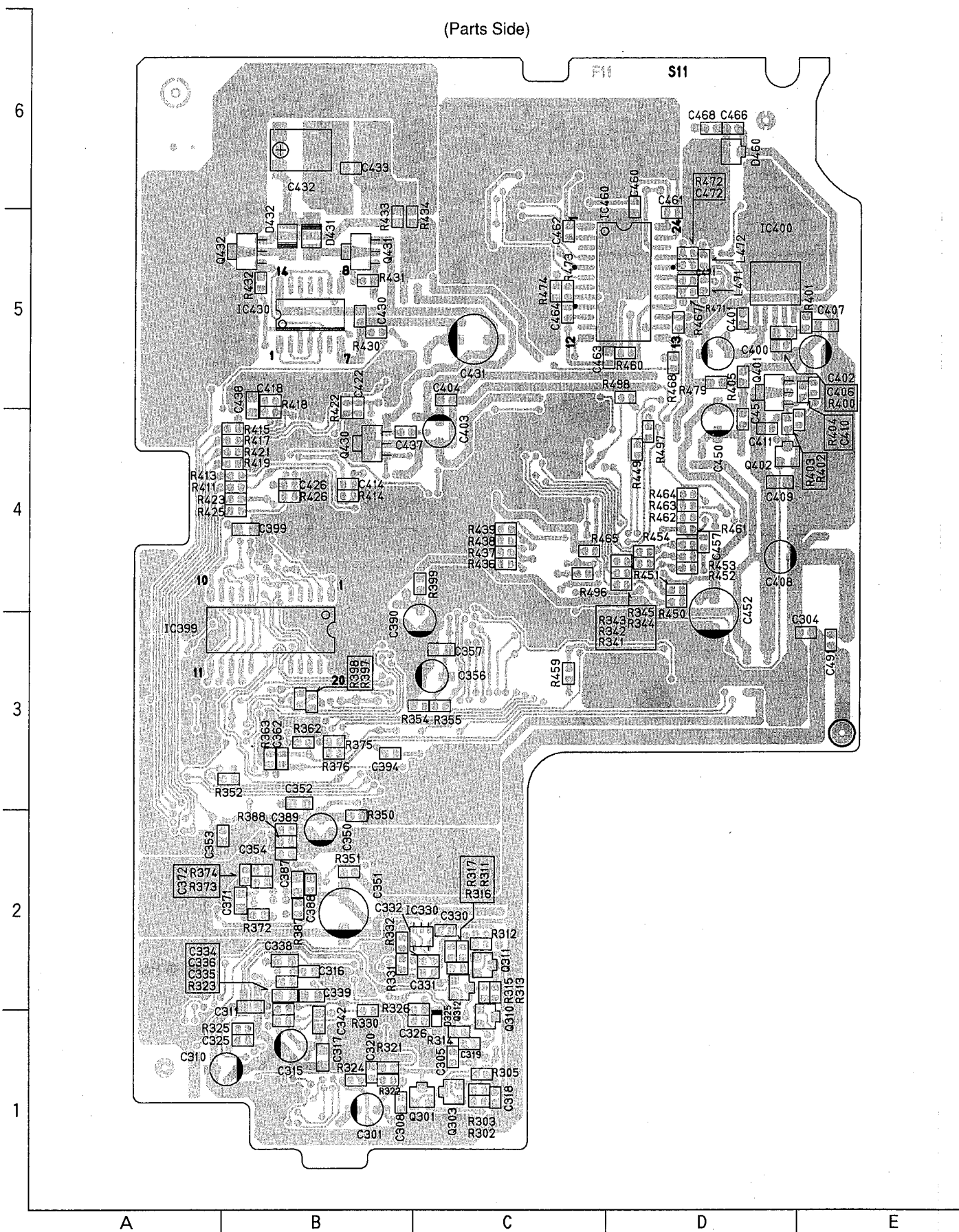


■ Power Supply & Operation Switch Borad: Block No. 01**Power Supply & Operation Switch Borad: Block No. 01**

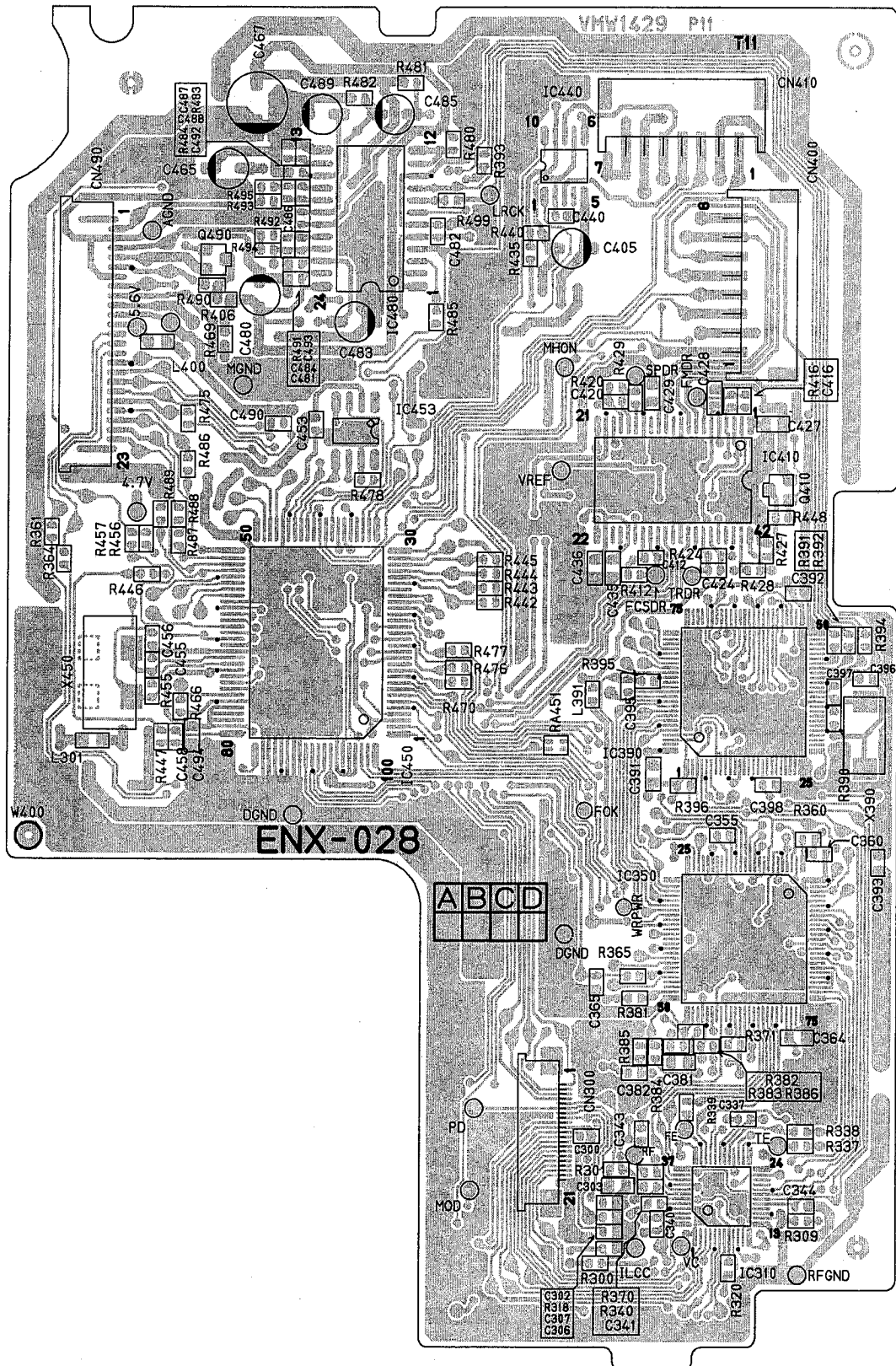


MD Servo Control Board: Block No. 02

(Parts Side)



(Solder Side)



F

G

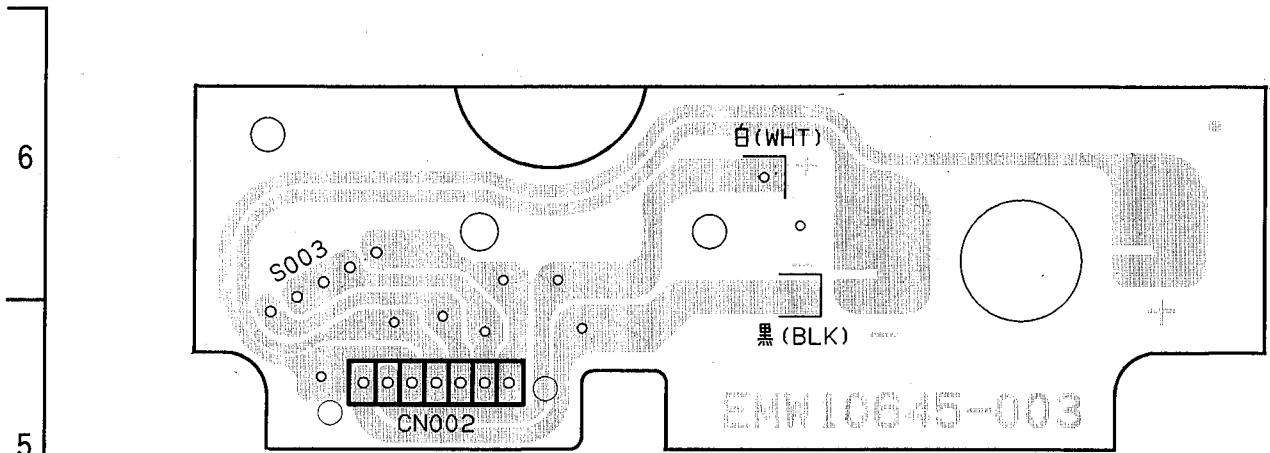
H

1

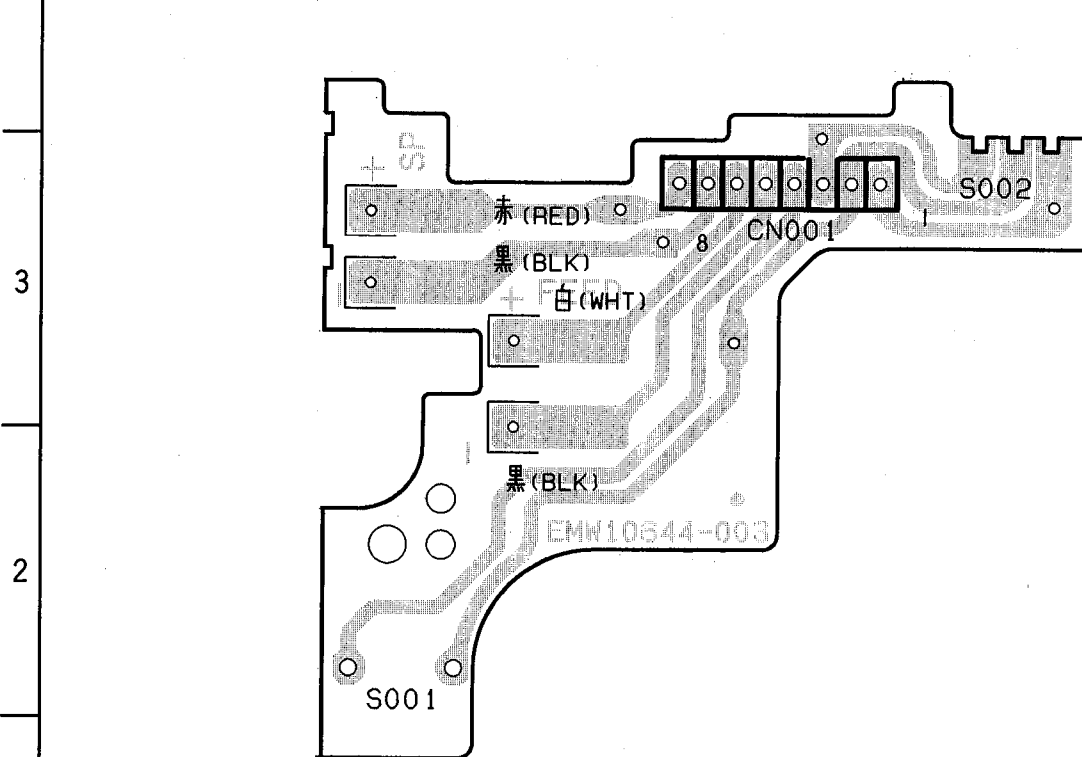
J

■ MD Mechanism Board

● Loading Circuit Board: Block No. 03



● Loading Circuit Board: Block No. 03



A

B

C

D

E

Analytic Drawing and Parts List

●Enclosure assembly section: Block No. **M1**

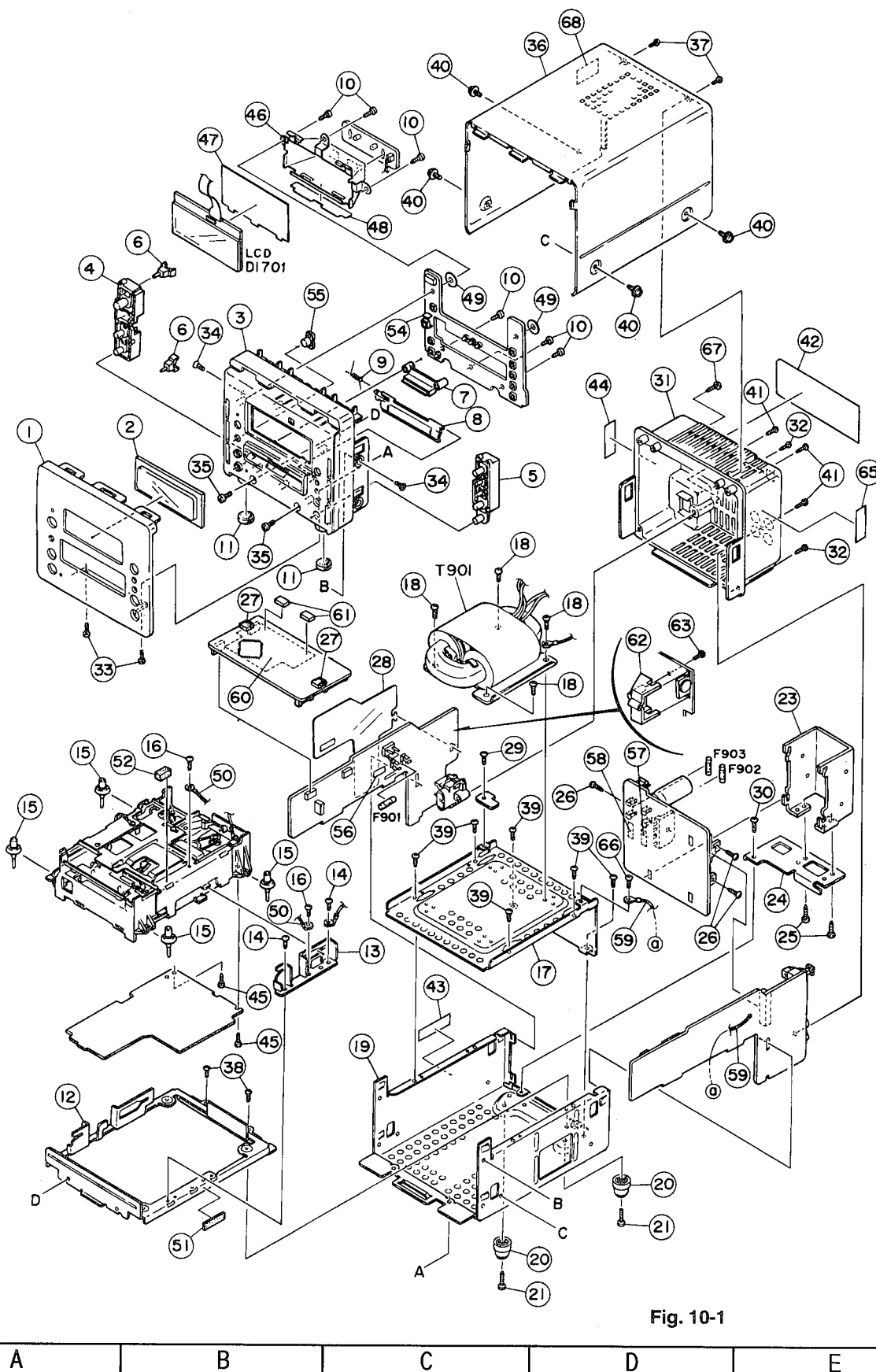


Fig. 10-1

●Enclosure assembly Parts List

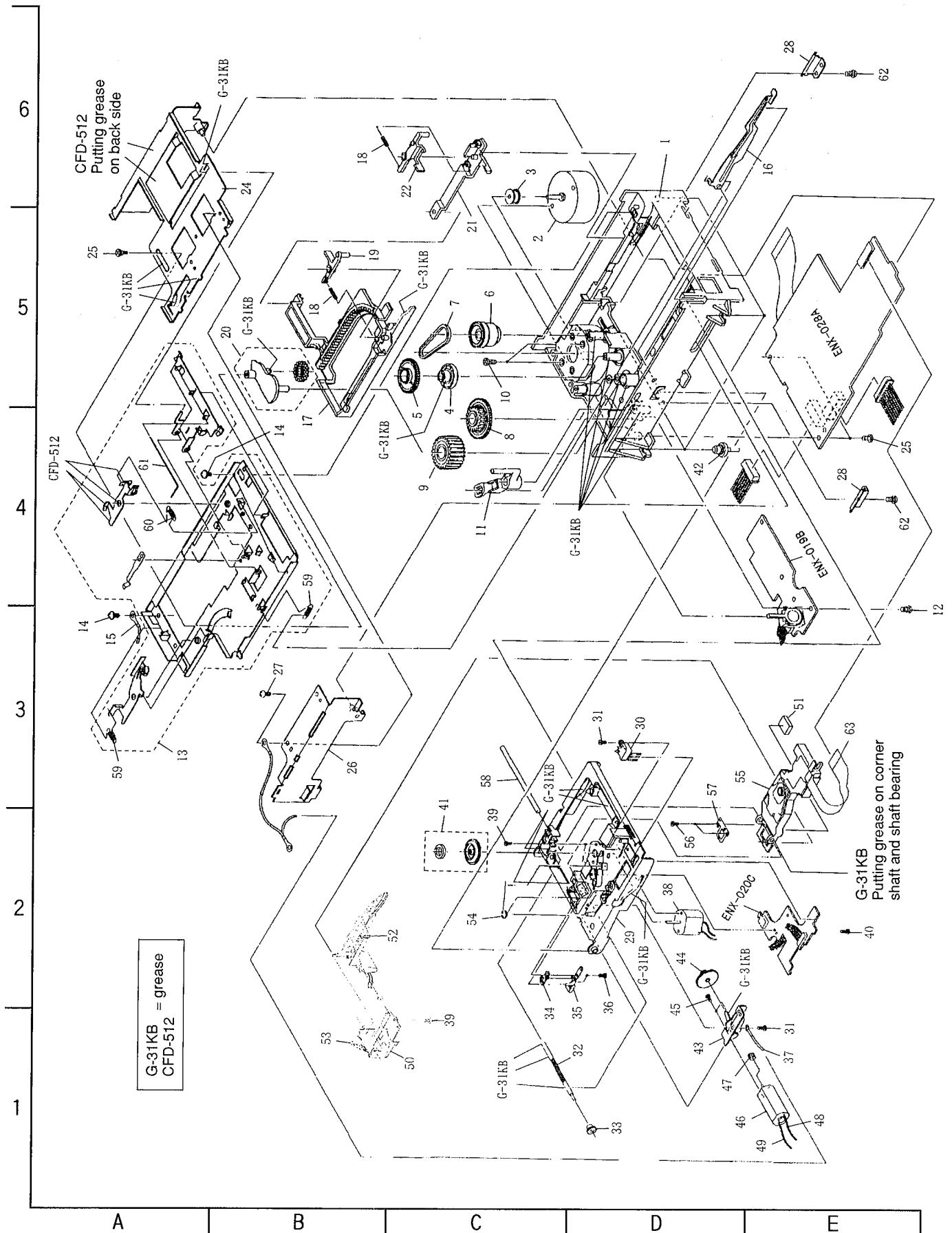
BLOCK NO. M1MM111

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	VJC2571-004	FRONT PLATE		1	B,E,EN,G	
		VJC2571-004	FRONT PLATE		1	U,UB,UT	
		VJC2571-005	FRONT PLATE		1	J	
	2	VJK4484-002	LCD LENS		1		
	3	VJG1417-004KP	FRONT PANEL		1	B,E,EN,G	
		VJG1417-004KP	FRONT PANEL		1	U,UB,UT	
		VJG1417-005ULKP	FRONT PANEL		1	J	
	4	VXP3873-001	F.BUTTON 1		1		
	5	VXP3805-002	F.BUTTON 2		1		
	6	VJK4485-001	LED LENS		2		
	7	VJK3697-001	MD LENS	CL	1		
	8	VJT3382-003	DOOR		1		
	9	VKW4947-002	DOOR SPRING		1		
	10	SDSF2608Z	SCREW	F.PANEL+PWB	6		
	11	VJF4003-001	FOOT	FOR F.PANEL	2		
	12	VKL2758-001	MECHA CHASSIS		1		
	13	VKM3884-002	MECHA BRACKET	EJECT SAFETY	1		
	14	SBST3006Z	SCREW	M.CHASS+M.BK	2		
	15	E406294-003	C.D INSULATOR	MECHA+M.CHASS	4		
	16	SBST3006Z	SCREW		2		
	17	VKL2761-001	TRANS CHASSIS	HOLDER+MECHA.	1		
	18	SBST4006Z	SCREW	TRANS+T.CHASSI	4		
	19	VKL1442-001	BOTTOM CHASSIS		1		
	20	VJF4054-001	FOOT ASSY		2		
	21	SBST3012Z	SCREW	FOR FOOT	2		
	23	VMH3023-001	HEAT SINK		1		
	24	VKL7848-001	H.S BRACKET		1		
	25	SBSF3006Z	SCREW	H.S+H.S BK	2		
	26	SBSF3008Z	SCREW	FOR IC HOLDER(C	3		
	27	VYSR103-048	SPACER	FOR PWB	2		
	28	VMA4730-001	BARRIER	FOR AC/FUSE PWB	1		
	29	SBST3006Z	SCREW		1		
	30	SBST3006Z	SCREW	BOTTOM CH+H.SIN	1		
	31	VJG1503-001UL	REAR PANEL		1	J	
		VJG1503-003	REAR PANEL		1	U,UB,UT	
		VJG1503-002	REAR PANEL		1	B,E,EN,G	
	32	SBST3006M	SCREW	RAER PANEL+CHAS	2		
	33	SXST3008NW	SCREW	FRONT+BOTTOM	2		
	34	SSST3006Z	SCREW	F.PANEL+BOTTOM	2		
	35	SSST3006Z	SCREW	F.PANEL+MECHA C	2		
	36	VJG1419-001	TOP COVER		1		
	37	SBSF3008M	SCREW	TOP COV+REAR	2		
	38	SBST3006Z	SCREW	M.CHASS+B.CHASS	2		
	39	SBST3006Z	SCREW	B.CHASS+TRANS.C	6		
	40	VKZ4614-002	SCREW	TOP.C+B.CHASS	4		
	41	SBSF3008M	SCREW	FOR JACK	3		
△	42	VYN9325-005	NAME PLATE		1	E,EN,G	
△		VYN9325-006	NAME PLATE		1	J	
△		VYN9325-007	NAME PLATE		1	U,UB	
△		VYN9325-010	NAME PLATE		1	UT	
△		VYN9325-002	NAME PLATE		1	B	
	43	E406709-001	LASER CAUTION		1	B,E,EN,G	
	44	E70891-001	CLASS 1 LABEL		1	B,E,EN,G	
		VND5001-002	HHS LABEL		1	J	
	45	E409163-001	SPECIAL SCREW		2		

BLOCK NO. M1MM [] [] []

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
46	VKM3933-001	LAMP CASE		1		
47	VYH8185-001	LAMP SHEET		1		
48	VYTT715-001	BLIND		1		
49	VYSS2R2-032	SPACER		2		
50	VWE240-10NTNT	WIRE		1		
51	VYSS102-C04	SPACER		1		
52	VYSR111-004	SPACER		1		
54	VYH8184-001	R.C IC HOLDER		1		
55	VJK4513-001	REMOTE LENS	HOLDER	1		
56	VND4003-086	FUSE LABEL		1	U,UB,UT	
	VND4003-087	FUSE LABEL		1	J	
	VND4003-046	FUSE LABEL		1	B,E,EN,G	
57	VND4003-073	FUSE LABEL		1	B,E,EN,G	
	VND4003-073	FUSE LABEL		1	U,UB,UT	
58	VND4003-072	FUSE LABEL		1	B,E,EN,G	
	VND4003-072	FUSE LABEL		1	U,UB,UT	
59	VWE240-06NTA2	WIRE WITH LUG	#301-#800	1	EN	
60	VMA4731-001	SHIELD		1	B,E,EN,G	
61	PU59915-105	SPACER		2	B,E,EN,G	
62	VYH8161-001	SELECT HOLDER		1	U,UB,UT	
63	SBSF3008Z	TAPPING SCREW		1	U,UB,UT	
65	VND4999-001	FCC LABEL		1	J	
66	SBST3006Z	TAPPING SCREW	#301-#800	1	EN	
67	SBSF3008M	SCREW	FOR JACK	1	U,UB,UT	
68	VYN9325-410	NAME PLATE		1	UT	
DI701	VGL1204-002	LCD		1		
F 901	QMF51E2-R125J1	FUSE		1	B,E,EN,G	
	QMF51N2-R20J1	FUSE		1	J	
	QMF51E2-R16J1	FUSE		1	U,UB,UT	
F 902	QMF51N2-1R6J1	FUSE		1	J	
	QMF51E2-1R6J1	FUSE		1	B,E,EN,G	
	QMF51E2-1R6J1	FUSE		1	U,UB,UT	
F 903	QMF51E2-R63SBS	FUSE		1	B,E,EN,G	
	QMF51E2-R63SBS	FUSE		1	U,UB,UT	
	QMF51N2-R60J1	FUSE		1	J	
T 901	VTP09J4-12A	POWER TRANS		1	B,E,EN,G	
	VTP09A4-12A	POWER TRANS		1	J	
	VTP09G4-12A	POWER TRANS		1	U,UB,UT	

MD Mechanism section: Block Diagram No. M2



●MD Mechanism Parts List

BLOCK NO. M2MM III

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	E103156-002	LOADING BASE		1		
	2	MSN5G543C	MOTOR		1		
	3	E75984-222SS	MOTOR PULLEY		1		
	4	E409146-001	GEAR(5)		1		
	5	E409143-001	GEAR(2)		1		
	6	E409142-001	GEAR(1)		1		
	7	E75950-002	BELT		1		
	8	E409144-001	GEAR(3)		1		
	9	E409145-001	GEAR(4)		1		
	10	SPSK2640Z	MINI SCREW		2		
	11	E409149-002	SWITCH LEVER		1		
	12	SBSF2606M	SCREW		1		
	13	E309825-009	CAR.BASE ASSY		1		
	14	GBSF2606Z	TAPPING SCREW		3		
	15	EWpz01-027	TERMINAL WIRE		1		
	16	E409155-002	SHUTTER LEVER		1		
	17	E208853-001	RACK		1		
	18	E409153-002	SPRING		2		
	19	E409152-002	HOOK(L)		1		
	20	E409195-002	P.GEAR ASSY		1		
	21	E309824-001	LINK		1		
	22	E409154-002	HOOK(R)		1		
	24	E309829-003	S.BKT (R) ASSY		1		
	25	E409163-001	SPECIAL SCREW		3		
	26	E409164-003	S.BKT (L) ASSY		1		
	27	SBST2606Z	T.SCREW		1		
	28	E409162-002	BRACKET		2		
	29	E103258-001	MECHA BASE ASSY		1		
	30	QSP2004-E03	PUSH SWITCH		1		
	31	SPSJ2035M	MINI SCREW		2		
	32	E409553-001	LEAD SCREW		1		
	33	E409542-001	CAM GEAR		1		
	34	E409548-001	SHAFT BRACKET		1		
	35	E409135-001	THRUST SPRING		1		
	36	E409332-001	SPECIAL SCREW		2		
	37	EWTO25-008	TERMINAL WIRE		1		
	38	FF-110PH-08280S	SP.MOTOR		1		
	39	SPSH1720M	MINI SCREW		2		
	40	SPST2606Z	SCREW		2		
	41	E309847-001	TURN TABLE		1		
	42	E406294-003	INSULATOR		4		
	43	E409129-004	MOTOR BKT SA		1		
	44	E409133-001	MIDDLE GEAR		1		
	45	SPSH1420Z	MINI SCREW		2		
	46	FF-N30VA-09210	FEED MOTOR		1		
	47	E409550-001	CAM GEAR		1		
	48	QWE269-06BB	WIRE ASSY		1		
	49	QWE260-05BB	WIRE ASSY		1		
	50	E310179-001	H.JOINT		1		
	51	LE30001-008A	SPACER		1		
	52	HMD-7A	HEAD UNIT		1		
	53	E409158-004	SPRING		1		
	54	E409165-001	M.SPRING		1		
	55	KMS-260A	MD PICK UNIT		1		
	56	SPSK1414Z	SCREW		2		
	57	E408255-002	RACK SPRING		1		
	58	E409141-001	GUIDE SHAFT		1		
	59	E409158-002	SPRING		2		
	60	E409158-003	SPRING		1		
	61	E409167-001	SPRING BAR		1		
	62	SBSF2606M	SCREW		2		
	63	EMW40008-001	FPC CABLE		1		

Electrical Parts List

Power supply operation switch board

BLOCK NO. 01					BLOCK NO. 02				
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 101	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		C 912	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V	
C 102	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		C 913	QEK61CM-107ZN	E-CAPACITOR	100MF 20% 16V	
C 103	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		C 914	QEK41HM-225	E-CAPACITOR	2.2MF 20% 50V	
C 104	QCB81HK-101Y	C-CAPACITOR	100PF 10% 50V		C 915	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V	
C 105	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		C 916	QEK41CM-106	E-CAPACITOR	10MF 20% 16V	
C 106	QCB81HK-681Y	C-CAPACITOR	680PF 10% 50V		C 917	QCC11EM-104V	C-CAPACITOR	-010MF 20% 25V	
C 107	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		C 918	QEK41CM-106	E-CAPACITOR	10MF 20% 16V	
C 108	QCB81HK-101Y	C-CAPACITOR	100PF 10% 50V		CN301	VMC0289-P10	CONNECTOR		
C 201	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		CN302	VMC0289-S08K	CONNECTOR		
C 202	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		CN303	VMC0289-S05K	CONNECTOR		
C 203	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		CN304	VMC0343-123R	CONNECTOR		
C 204	QCB81HK-101Y	C-CAPACITOR	100PF 10% 50V		CN305	VMC0075-002	CONNECTOR		
C 205	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		CN701	VMC0289-P08	CONNECTOR		
C 206	QCB81HK-681Y	C-CAPACITOR	680PF 10% 50V		CN702	VMC0289-P05	CONNECTOR		
C 207	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		CN703	VMC0289-P05	CONNECTOR		
C 208	QCB81HK-101Y	C-CAPACITOR	100PF 10% 50V		CN704	VMC0289-P05	CONNECTOR		
C 301	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V		CN705	VMC0343-214	CONNECTOR		
C 302	QEK41CM-226	E-CAPACITOR	22MF 20% 16V		CN771	VMC0163-R08	CONNECTOR		
C 303	QCC11EM-103V	C-CAPACITOR	-010MF 20% 25V		CN791	VMC0289-S05K	CONNECTOR		
C 304	QEK61CM-107ZN	E-CAPACITOR	100MF 20% 16V		CN792	VMC0289-S05K	CONNECTOR		
C 305	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		CN795	VMC0163-008	CONNECTOR		
C 306	QFV41HJ-224	FILM CAPACITOR	-22MF 5% 50V		CN901	EMV5137-002	CONNECTOR		B, E, EN, G
C 307	QCB81HK-102Y	C-CAPACITOR	1000PF 10% 50V		CN901	EMV5137-002	CONNECTOR		J
C 308	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V		CN901	EMV5137-004	CONNECTOR		U, UB, UT
C 309	QCB81HK-102Y	C-CAPACITOR	1000PF 10% 50V		CN902	EMV5138-004	4P CONNECTOR		
C 310	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V		CN903	VMC0289-S10K	CONNECTOR		
C 311	QEK41HM-225	E-CAPACITOR	2.2MF 20% 50V		D 301	MT76-8JB	ZENER DIODE		
C 312	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V		D 302	1SS133	SI DIODE		
C 313	QEK41CM-226	E-CAPACITOR	22MF 20% 16V		D 303	1SS133	SI DIODE		
C 314	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		D 305	1SS133	SI DIODE		
C 315	QEK61HM-475ZN	E-CAPACITOR	4.7MF 20% 50V		D 306	1SS133	SI DIODE		
C 316	QEK41CM-226	E-CAPACITOR	22MF 20% 16V		D 307	1SS133	SI DIODE		
C 701	QEK51AM-107	E-CAPACITOR	100MF 20% 10V		D 308	1SS133	SI DIODE		
C 702	QCB81HK-102Y	C-CAPACITOR	1000PF 10% 50V		D 309	1SS133	SI DIODE		
C 703	QCS31HJ-270Z	C-CAPACITOR	27PF 5% 50V		D 310	RB721Q	DIODE		
C 704	QCS31HJ-270Z	C-CAPACITOR	27PF 5% 50V		D 311	RB721Q	DIODE		
C 705	QEK41CM-106	E-CAPACITOR	10MF 20% 16V		D 701	1SS133	SI DIODE		
C 706	QEK41HM-105	E-CAPACITOR	1.0MF 20% 50V		D 771	SLR-325MGT31	LED		
C 707	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V		D 772	SLR-325MGT31	LED		
C 708	QCB81HK-102Y	C-CAPACITOR	1000PF 10% 50V		D 773	SLR-325MGT31	LED		
C 709	QCB81HK-471Y	C-CAPACITOR	470PF 10% 50V		D 774	SLR-325VCT31	LED		
C 710	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V		D 775	SLR-325VCT31	LED		
C 711	QCVB1CM-103Y	C-CAPACITOR	-010MF 20% 16V		D 901	D38BA20-S1	DIODE		
C 717	QEK41CM-476	E-CAPACITOR	47MF 20% 16V		D 902	1SR35-100A-T2	SI DIODE		
C 901	QCF11HP-223	C-CAPACITOR	-022MF +100%-0%		D 903	1SR35-100A-T2	SI DIODE		
C 902	QCF11HP-223	C-CAPACITOR	-022MF +100%-0%		D 904	1SR35-100A-T2	SI DIODE		
C 903	QCF11HP-223	C-CAPACITOR	-022MF +100%-0%		D 905	1SR35-100A-T2	SI DIODE		
C 904	QCF11HP-223	C-CAPACITOR	-022MF +100%-0%		D 906	1SS133	SI DIODE		
C 905	QCF11HP-223	C-CAPACITOR	-022MF +100%-0%		D 907	MT75-6JA	ZENER DIODE		
C 906	QCF11HP-223	C-CAPACITOR	-022MF +100%-0%		D 908	MT76-2JC	ZENER DIODE		
C 907	QCF11HP-223	C-CAPACITOR	-022MF +100%-0%		D 909	1SS133	SI DIODE		
C 908	QCF11HP-223	C-CAPACITOR	-022MF +100%-0%		D 910	MT75-1JC	ZENER DIODE		
C 909	QETM1CM-109	E-CAPACITOR	10000MF 20% 16V		D 911	1SS133	SI DIODE		
C 910	QETM1CM-338	E-CAPACITOR	3300MF 20% 25V		D 912	MT76-8JB	ZENER DIODE		
C 911	QCB81HK-102Y	C-CAPACITOR	1000PF 10% 50V		IC301	BA15218	IC		

BLOCK NO. 01111111

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
IC302	BA15218	IC		
IC303	PST600F-T	IC		
IC304	BA15218	IC		
IC701	MN1884824J8Y	IC		
IC771	RPM6938-V4	RM RECEIVER		
IC901	UPC78L05J-T	IC(M)		
J 301	EMN00TV-421A2	PIN JACK		
J 302	GP1F32R	OPTICAL JACK		
J 301	QMCB001-E02H	AC SOCKET		
J 901	QMCB001-E02H	AC SOCKET		
J 901	QMCB250-V02	AC SOCKET		
K 301	VQZ0048-009	INDUCTOR		
K 302	VQZ0048-009	INDUCTOR		
K 303	VQZ0048-009	INDUCTOR		
K 304	VQZ0048-009	INDUCTOR		
K 305	VQZ0048-009	INDUCTOR		
K 701	VQZ0048-009	INDUCTOR		
K 702	VQZ0048-009	INDUCTOR		
L 101	VQP0018-4R7	INDUCTOR		
L 102	VQP0018-4R7	INDUCTOR		
L 201	VQP0018-4R7	INDUCTOR		
L 202	VQP0018-4R7	INDUCTOR		
L 302	VQP0018-4R7	INDUCTOR		
L 303	VQP0018-4R7	INDUCTOR		
L 304	VQP0018-4R7	INDUCTOR		
L 306	VQP0018-4R7	INDUCTOR		
L 307	VQP0018-4R7	INDUCTOR		
L 701	VQP0028-100Z	INDUCTOR		
L 702	VQP0018-4R7	INDUCTOR		
L 703	VQP0018-4R7	INDUCTOR		
P 1	VMZ0015-005	POST PIN		
P 2	VMZ0015-005	POST PIN		
P 5	VMZ0015-002	POST PIN		
PL391	QLL0023-001	LAMP		
PL392	QLL0023-001	LAMP		
Q 101	2SD2144S(VW)	TRANSISTOR		
Q 201	2SD2144S(VW)	TRANSISTOR		
Q 301	2SC2785	TRANSISTOR		
Q 302	DTA144ES	D-TRANSISTOR		
Q 303	2SC2785	TRANSISTOR		
Q 304	2SA1175	TRANSISTOR		
Q 305	DTC115ESA-T	D-TRANSISTOR		
Q 306	DTC114WS	D-TRANSISTOR		
Q 307	DTC114YSA-T	D-TRANSISTOR		
Q 701	DTC114ESA-T	D-TRANSISTOR		
Q 702	DTC114TSA-T	D-TRANSISTOR		
Q 703	DTC114TSA-T	D-TRANSISTOR		
Q 704	DTC114TSA-T	D-TRANSISTOR		
Q 901	2SB1565(E,F)	TRANSISTOR		
Q 902	2SA1175	TRANSISTOR		
Q 903	DTC114TSA-T	D-TRANSISTOR		
Q 904	DTA144TSTP	TRANSISTOR		
Q 905	2SC2785	TRANSISTOR		
Q 906	2SC2785	TRANSISTOR		
Q 907	DIC143TS	TRANSISTOR		

BLOCK NO. 01111111

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
Q 908	2SA1359(XOY)	TRANSISTOR		
Q 909	DTA143TSTP	TRANSISTOR		
Q 910	2SC2785	TRANSISTOR		
R 101	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
R 102	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
R 103	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
R 104	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 105	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
R 106	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 107	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
R 108	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 109	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
R 110	QRD161J-104	CARBON RESISTOR	1.0K 5% 1/6W	
R 111	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 112	QRD161J-104	CARBON RESISTOR	1.0K 5% 1/6W	
R 113	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
R 201	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
R 202	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
R 203	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
R 204	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 205	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
R 206	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 207	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
R 208	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 209	QRD161J-273	CARBON RESISTOR	27K 5% 1/6W	
R 210	QRD161J-104	CARBON RESISTOR	1.0K 5% 1/6W	
R 211	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 212	QRD161J-104	CARBON RESISTOR	1.0K 5% 1/6W	
R 213	QRD161J-221	CARBON RESISTOR	220 5% 1/6W	
R 301	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
R 302	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
R 303	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
R 304	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 305	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
R 306	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
R 307	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
R 308	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 309	QRD167J-332	CARBON RESISTOR	3.3K 5% 1/6W	
R 310	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
R 311	QRD161J-100	CARBON RESISTOR	10 5% 1/6W	
R 312	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
R 313	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
R 701	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 702	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 703	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 704	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 706	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 707	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 708	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 709	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 710	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 711	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 712	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 713	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 714	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	

BLOCK NO. 01

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 715	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 716	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 717	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 718	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 719	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 720	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 721	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 722	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 723	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 724	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 725	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 726	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 727	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
	R 728	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 729	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 730	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 731	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 732	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 733	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 734	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 735	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 736	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
	R 737	QRD161J-242	CARBON RESISTOR	2.4K 5% 1/6W	
	R 738	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
	R 739	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
	R 771	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 772	QRD161J-331	CARBON RESISTOR	330 5% 1/6W	
	R 773	QRD161J-271	CARBON RESISTOR	270 5% 1/6W	
	R 775	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
	R 776	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 777	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 778	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 779	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 780	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
	R 781	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 782	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
	R 783	QRD161J-562	CARBON RESISTOR	5.6K 5% 1/6W	
	R 901	QRD161J-1R0	CARBON RESISTOR	1.0 5% 1/6W	
	R 902	QRD161J-1R0	CARBON RESISTOR	1.0 5% 1/6W	
	R 903	QRD161J-1R0	CARBON RESISTOR	1.0 5% 1/6W	
	R 904	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 905	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 906	QRD161J-332	CARBON RESISTOR	3.3K 5% 1/6W	
	R 907	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
	R 908	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
	R 909	QRD161J-181	CARBON RESISTOR	180 5% 1/6W	
	R 910	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 911	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
	R 912	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 913	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 914	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
	R 915	QRD161J-682	CARBON RESISTOR	6.8K 5% 1/6W	
	R 916	QRD161J-752	CARBON RESISTOR	7.5K 5% 1/6W	
	R 917	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
	R 918	QRD161J-3R3	CARBON RESISTOR	3.3 5% 1/6W	
	R 919	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	

BLOCK NO. 02

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	R 920	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
	R 921	QR20077-4R7X	FUSE RESISTOR	4.7 1/0W	
	R 922	QRD161J-3R3	CARBON RESISTOR	3.3 5% 1/6W	
	S 771	QSQ4H11-V12Z	TACT SWITCH		
	S 772	QSQ4H11-V12Z	TACT SWITCH		
	S 773	QSQ4H11-V12Z	TACT SWITCH		
	S 774	QSQ4H11-V12Z	TACT SWITCH		
	S 775	QSQ4H11-V12Z	TACT SWITCH		
	S 776	QSQ4H11-V12Z	TACT SWITCH		
	S 777	QSQ4H11-V12Z	TACT SWITCH		
	S 778	QSQ4H11-V12Z	TACT SWITCH		
	S 901	VMZ0126-003	SELECT SWITCH		U,UB,UT
	X 701	CSA8.00MTZ226-T	CERA LOCK		
	Z 901	VMZ0125-001Z	FUSE CLIP		
	Z 902	VMZ0125-001Z	FUSE CLIP		
	Z 903	VMZ0125-001Z	FUSE CLIP		
	Z 911	VMZ0125-001Z	FUSE CLIP		
	Z 912	VMZ0125-001Z	FUSE CLIP		
	Z 913	VMZ0125-001Z	FUSE CLIP		

MD Servo control board

BLOCK NO. 02

BLOCK NO. 02

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 300	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 302	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 304	NEA20JM-226NZ	C CAPACITOR	150PF 5% 50V	
	C 306	NEA20JM-226NZ	C CAPACITOR	10MF 10% 16V	
	C 308	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 310	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 311	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 315	NEA20JM-226NZ	C CAPACITOR	47MF 20%	
	C 316	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 317	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 318	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 319	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 320	NEA20JM-226NZ	C CAPACITOR	2200PF 10% 50V	
	C 325	NEA20JM-226NZ	C CAPACITOR	0.22MF 10% 16V	
	C 326	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 330	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 331	NEA20JM-226NZ	C CAPACITOR	0.22MF 10% 16V	
	C 332	NEA20JM-226NZ	C CAPACITOR	0.22MF 10% 16V	
	C 336	NEA20JM-226NZ	C CAPACITOR	1.0MF 10% 6.3V	
	C 337	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 338	NEA20JM-226NZ	C CAPACITOR	1.0MF 10% 6.3V	
	C 339	NEA20JM-226NZ	C CAPACITOR	0.22MF 10% 16V	
	C 340	NEA20JM-226NZ	C CAPACITOR	0.47MF 10% 16V	
	C 341	NEA20JM-226NZ	C CAPACITOR	6800PF 10% 50V	
	C 342	NEA20JM-226NZ	C CAPACITOR	1.0MF 10% 6.3V	
	C 343	NEA20JM-226NZ	C CAPACITOR	6800PF 10% 50V	
	C 344	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 350	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 351	NEA20JM-226NZ	E CAPACITOR	100MF 20% 6.3V	
	C 352	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 353	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 354	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 355	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 357	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 364	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 365	NEA20JM-226NZ	C CAPACITOR	10PF 5% 50V	
	C 371	NEA20JM-226NZ	C CAPACITOR	1.0MF 10% 6.3V	
	C 372	NEA20JM-226NZ	C CAPACITOR	0.22MF 10% 16V	
	C 381	NEA20JM-226NZ	C CAPACITOR	0.22MF 10% 16V	
	C 382	NEA20JM-226NZ	C CAPACITOR	0.22MF 10% 16V	
	C 387	NEA20JM-226NZ	C CAPACITOR	0.47MF 10% 16V	
	C 388	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 389	NEA20JM-226NZ	C CAPACITOR	100PF 5% 50V	
	C 390	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 391	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 392	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 393	NEA20JM-226NZ	C CAPACITOR	150PF 5% 50V	
	C 394	NEA20JM-226NZ	C CAPACITOR	150PF 5% 50V	
	C 395	NEA20JM-226NZ	C CAPACITOR	10PF 5% 50V	
	C 396	NEA20JM-226NZ	C CAPACITOR	10PF 5% 50V	
	C 397	NEA20JM-226NZ	C CAPACITOR	10PF 5% 50V	
	C 398	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 399	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 400	NEA20JM-226NZ	E CAPACITOR	10MF 20% 16V	
	C 401	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 402	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 403	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 404	NEA20JM-226NZ	C CAPACITOR	10MF +80:-20%	
	C 406	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 407	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 409	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 411	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 412	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 414	NEA20JM-226NZ	C CAPACITOR	1200PF 10% 50V	
	C 416	NEA20JM-226NZ	C CAPACITOR	1200PF 10% 50V	
	C 418	NEA20JM-226NZ	C CAPACITOR	0.018MF 10% 16V	
	C 420	NEA20JM-226NZ	C CAPACITOR	0.018MF 10% 16V	
	C 422	NEA20JM-226NZ	C CAPACITOR	1800PF 10% 50V	
	C 424	NEA20JM-226NZ	C CAPACITOR	1800PF 10% 50V	
	C 426	NEA20JM-226NZ	C CAPACITOR	1200PF 10% 50V	
	C 427	NEA20JM-226NZ	C CAPACITOR	1200PF 10% 50V	
	C 428	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 429	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 430	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 431	NEA20JM-226NZ	E CAPACITOR	100MF 20% 6.3V	
	C 432	NEA20JM-226NZ	E CAPACITOR	820PF 10% 50V	
	C 433	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 435	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 436	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 437	NEA20JM-226NZ	C CAPACITOR	680PF 10% 50V	
	C 438	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 450	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 451	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 453	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 455	NEA20JM-226NZ	C CAPACITOR	10PF 5% 50V	
	C 456	NEA20JM-226NZ	C CAPACITOR	10PF 5% 50V	
	C 457	NEA20JM-226NZ	C CAPACITOR	2200PF 10% 50V	
	C 458	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 460	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 461	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 462	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 463	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 464	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 465	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 466	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 467	NEA20JM-226NZ	E CAPACITOR	100MF 20% 6.3V	
	C 468	NEA20JM-226NZ	C CAPACITOR	0.010MF 10% 50V	
	C 471	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 472	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 480	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 481	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 482	NEA20JM-226NZ	C CAPACITOR	1.0MF +80:-20%	
	C 483	NEA20JM-226NZ	E CAPACITOR	47MF 20%	
	C 484	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 485	NEA20JM-226NZ	E CAPACITOR	22MF 20% 6.3V	
	C 486	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 487	NEA20JM-226NZ	C CAPACITOR	0.022MF 10% 16V	
	C 488	NEA20JM-226NZ	C CAPACITOR	1000PF 10% 50V	
	C 489	NEA20JM-226NZ	E CAPACITOR	47MF 20%	

BLOCK NO. 02

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R 317	NRSA63J-562NY	MG RESISTOR	5.6K 5%	
R 318	NRSA63J-182NY	MG RESISTOR	1.8K 5%	
R 320	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 322	NRSA63J-562NY	MG RESISTOR	5.6K 5%	
R 323	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 324	NRSA63J-474NY	MG RESISTOR	470K 5%	
R 325	NRSA63J-474NY	MG RESISTOR	470K 5%	
R 326	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 330	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 331	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 332	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 337	NRSA63J-331NY	MG RESISTOR	330 5%	
R 338	NRSA63J-331NY	MG RESISTOR	330 5%	
R 339	NRSA63J-331NY	MG RESISTOR	330 5%	
R 340	NRSA63J-153NY	MG RESISTOR	15K 5%	
R 341	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 342	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 343	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 344	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 345	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 350	NRSA63J-100NY	MG RESISTOR	10 5%	
R 351	NRSA63J-100NY	MG RESISTOR	10 5%	
R 352	NRSA63J-104NY	MG RESISTOR	100K 5%	
R 354	NRSA63J-103NY	MF RESISTOR	10K	
R 355	NRSA63J-103NY	MF RESISTOR	10K	
R 360	NRSA63J-331NY	MG RESISTOR	330 5%	
R 361	NRSA63J-101NY	MG RESISTOR	100 5%	
R 362	NRSA63J-471NY	MG RESISTOR	470 5%	
R 363	NRSA63J-152NY	MG RESISTOR	1.5K 5%	
R 364	NRSA63J-101NY	MG RESISTOR	100 5%	
R 365	NRSA63J-101NY	MG RESISTOR	100 5%	
R 370	NRSA63J-101NY	MG RESISTOR	100 5%	
R 371	NRSA63J-152NY	MG RESISTOR	1.5K 5%	
R 372	NRSA63J-471NY	MG RESISTOR	470 5%	
R 373	NRSA63J-331NY	MG RESISTOR	330 5%	
R 374	NRSA63J-470NY	MG RESISTOR	47 5%	
R 375	NRSA63J-080AY	RESISTOR	5%	
R 381	NRSA63J-152NY	MG RESISTOR	1.5K 5%	
R 382	NRSA63J-105NY	MG RESISTOR	1.0M 5%	
R 383	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 384	NRSA63J-331NY	MG RESISTOR	330 5%	
R 385	NRSA63J-470NY	MG RESISTOR	47 5%	
R 386	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 387	NRSA63J-104NY	MG RESISTOR	100K 5%	
R 388	NRSA63J-335NY	MG RESISTOR	3.3M 5%	
R 390	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 391	NRSA63J-471NY	MG RESISTOR	470 5%	
R 392	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 393	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 394	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 395	NRSA63J-101NY	MG RESISTOR	100 5%	
R 396	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 397	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 398	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 399	NRSA63J-100NY	MG RESISTOR	10 5%	

BLOCK NO. 02

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 420	NCS31HJ-101AY	C-CAPACITOR	100PF 5% 50V	
C 421	NCS31HJ-331AY	C CAPACITOR	330PF 10% 50V	
C 422	NCS31HJ-680AY	C CAPACITOR	68PF 5% 50V	
C 423	NCS31HJ-680AY	C CAPACITOR	68PF 5% 50V	
C 424	NCF21C2-105AY	C CAPACITOR	1.0MF +80% -20%	
CN300	ENV1150-221E	CONNECTOR		
CN400	ENV5109-008BE	SOCKET		
CN410	ENV5109-007BE	SOCKET		
CN490	ENV7154-223E	CONNECTOR		
D 325	1SS355-X	DIODE		
D 431	SC802-06-X	DIODE		
D 432	SC802-06-X	DIODE		
D 460	DA204K	CHIP DIODE		
IC310	CXA1981AR	IC		
IC330	IC7S04FX	IC		
IC350	CXD2535CR	IC		
IC390	CXD2536CR	IC		
IC399	MN414400CTT-07L	IC		
IC400	PQ20V11X	IC		
IC410	MS6759FP-X	IC		
IC440	TC74HC00AF	IC		
IC440	TAB409FTP1	IC		
IC450	HD6433042SA64FP	IC		
IC453	AK93C45LF-E1	IC		
IC460	IDA1386TX	IC		
IC460	SA1737T-X	IC		
L 301	VZ0108-003Y	INDUCTOR		
L 391	VZ0105-001Y	INDUCTOR		
L 400	VZ0108-006Y	INDUCTOR		
L 471	VZ0105-001Y	INDUCTOR		
L 472	VZ0105-001Y	INDUCTOR		
Q 301	2SB1197K(Q,R)-X	TRANSISTOR		
Q 303	DTA114EKA-X	CHIP TRANSISTOR		
Q 310	2SC2242K(R,S)	CHIP TRANSISTOR		
Q 311	2SA1037AK(R,S)-X	CHIP TRANSISTOR		
Q 312	2SC2412K(R,S)	CHIP TRANSISTOR		
Q 401	2SA1363T1(E,F)	CHIP TRANSISTOR		
Q 402	DTC114EKA-X	TRANSISTOR		
Q 410	DTA114EKA-X	TRANSISTOR		
Q 430	2SC3443T1(E,F)	CHIP TRANSISTOR		
Q 431	2SJ278-X	FET		
Q 432	2SK1764-X	FET		
Q 490	2SA1362GR-TE85L	TRANSISTOR		
R 300	NRSA63J-100NY	MG RESISTOR	10 5%	
R 301	NRSA63J-080AY	RESISTOR	5%	
R 302	NRSA63J-100NY	MG RESISTOR	10 5%	
R 303	NRSA63J-100NY	MG RESISTOR	10 5%	
R 305	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 309	NRSA63J-331NY	MG RESISTOR	330 5%	
R 311	NRSA63J-104NY	MG RESISTOR	100K 5%	
R 312	NRSA63J-562NY	MG RESISTOR	5.6K 5%	
R 313	NRSA63J-331NY	MG RESISTOR	330 5%	
R 314	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 315	NRSA63J-911NY	MG RESISTOR	910 5%	
R 316	NRSA63J-104NY	MG RESISTOR	100K 5%	

BLOCK NO. 02

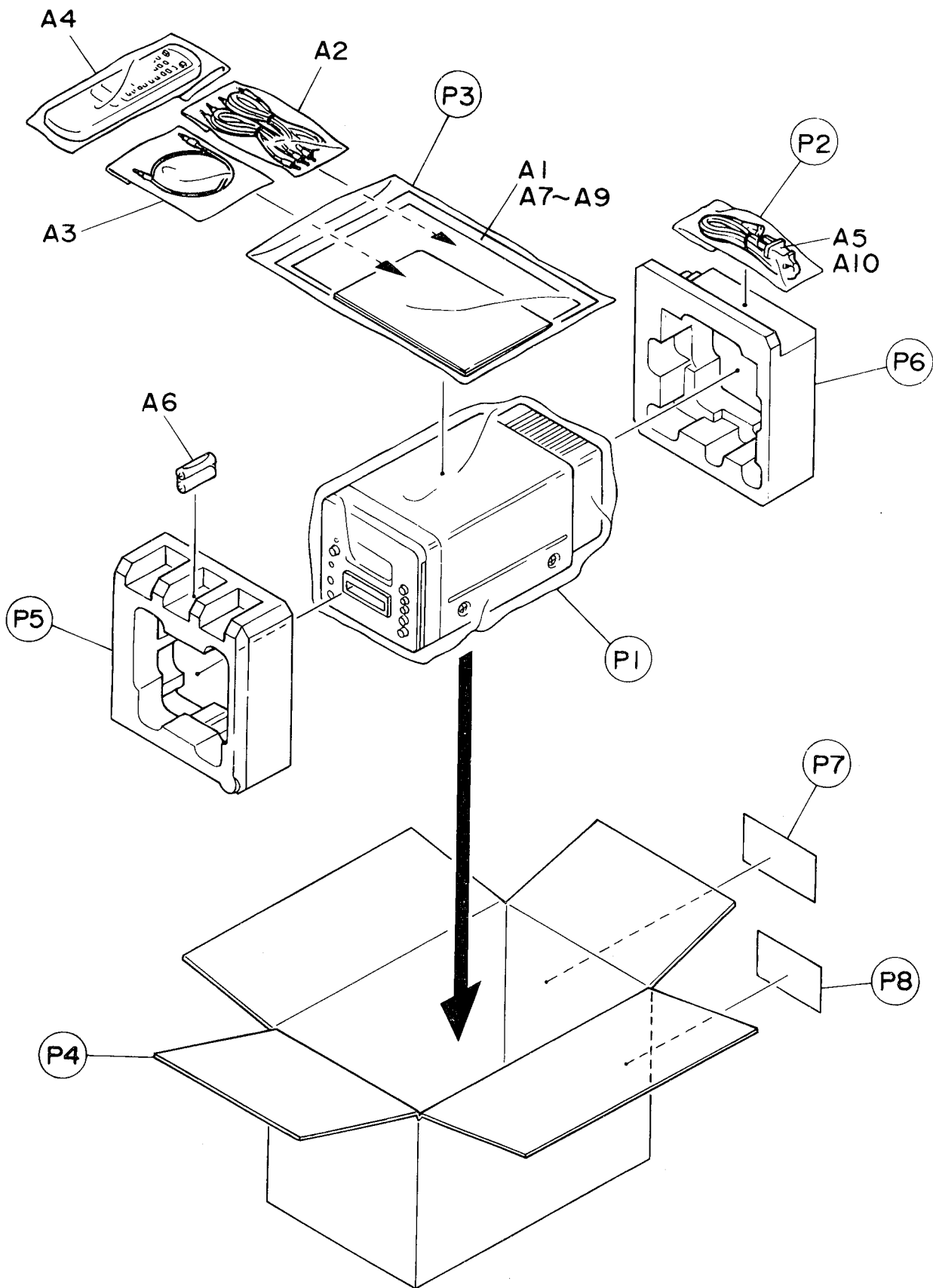
REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R 400	NRVA63D-752NY	MF RESISTOR	7.5K	
R 401	NRVA63D-272NY	MF RESISTOR	2.7K	
R 402	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 403	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 404	NRSA63J-153NY	MG RESISTOR	15K 5%	
R 405	NRSA63J-100NY	MG RESISTOR	10 5%	
R 406	NRSA63J-0ROAY	RESISTOR	5%	
R 411	NRVA63D-223NY	RESISTOR	22K	
R 412	NRVA63D-512X	RESISTOR	5.1K	
R 413	NRVA63D-223NY	RESISTOR	22K	
R 414	NRVA63D-512X	RESISTOR	5.1K	
R 415	NRVA63D-223NY	RESISTOR	22K	
R 416	NRVA63D-432NY	MF RESISTOR	4.3K	
R 417	NRVA63D-223NY	RESISTOR	22K	
R 418	NRVA63D-432NY	MF RESISTOR	4.3K	
R 419	NRVA63D-223NY	RESISTOR	22K	
R 420	NRVA63D-562NY	MF RESISTOR	5.6K	
R 421	NRVA63D-223NY	RESISTOR	22K	
R 422	NRVA63D-562NY	MF RESISTOR	5.6K	
R 423	NRVA63D-223NY	RESISTOR	22K	
R 424	NRVA63D-512X	RESISTOR	5.1K	
R 425	NRVA63D-223NY	RESISTOR	22K	
R 426	NRVA63D-512X	RESISTOR	5.1K	
R 427	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 428	NRSA63J-0ROAY	RESISTOR	5%	
R 429	NRVA63D-682X	MF RESISTOR	6.8K	
R 430	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 431	NRSA63J-220NY	MG RESISTOR	22 5%	
R 432	NRSA63J-220NY	MG RESISTOR	22 5%	
R 433	NRSA63J-0ROAY	RESISTOR	5%	
R 435	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 440	NRSA63J-272NY	MG RESISTOR	2.7K 5%	
R 446	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 447	NRSA63J-333NY	MG RESISTOR	33K 5%	
R 449	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 450	NRSA63J-123NY	MG RESISTOR	12K 5%	
R 451	NRSA63J-123NY	MG RESISTOR	12K 5%	
R 452	NRSA63J-123NY	MG RESISTOR	12K 5%	
R 453	NRSA63J-123NY	MG RESISTOR	12K 5%	
R 454	NRSA63J-123NY	MG RESISTOR	12K 5%	
R 455	NRSA63J-105NY	MG RESISTOR	1.0M 5%	
R 456	NRSA63J-473NY	MG RESISTOR	47K 5%	
R 457	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 459	NRSA63J-123NY	MG RESISTOR	12K 5%	
R 460	NRSA63J-0ROAY	RESISTOR	5%	
R 461	NRSA63J-0ROAY	RESISTOR	5%	
R 465	NRSA63J-104NY	MG RESISTOR	100K 5%	
R 466	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 467	NRSA63J-101NY	MG RESISTOR	100 5%	
R 468	NRSA63J-101NY	MG RESISTOR	100 5%	
R 470	NRSA63J-470NY	MG RESISTOR	47 5%	
R 471	NRSA63J-100NY	MG RESISTOR	10 5%	
R 472	NRSA63J-100NY	MG RESISTOR	10 5%	
R 473	NRSA63J-0ROAY	RESISTOR	5%	
R 475	NRSA63J-102NY	MG RESISTOR	1.0K 5%	

BLOCK NO. 02

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R 476	NRSA63J-470NY	MG RESISTOR	47 5%	
R 477	NRSA63J-470NY	MG RESISTOR	47 5%	
R 478	NRSA63J-104NY	MG RESISTOR	100K 5%	
R 480	NRSA63J-0ROAY	RESISTOR	5%	
R 481	NRSA63J-271NY	MG RESISTOR	270 5%	
R 482	NRSA63J-271NY	MG RESISTOR	270 5%	
R 483	NRSA63J-333NY	MG RESISTOR	33K 5%	
R 484	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 485	NRSA63J-101NY	MG RESISTOR	100 5%	
R 486	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 487	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 488	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 489	NRSA63J-102NY	MG RESISTOR	1.0K 5%	
R 491	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 492	NRSA63J-334NY	MG RESISTOR	330K 5%	
R 493	NRSA63J-684NY	MG RESISTOR	680K 5%	
R 494	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 495	NRSA63J-103NY	MG RESISTOR	10K 5%	
R 496	NRSA63J-222NY	MG RESISTOR	2.2K 5%	
R 497	NRSA63J-471NY	MG RESISTOR	470 5%	
R 498	NRSA63J-471NY	MG RESISTOR	470 5%	
R 499	NRSA63J-471NY	MG RESISTOR	470 5%	
RA451	EXBV4VJ-102Y	NET RESISTOR		
X 390	VCX5087-001Y	CRYSTAL		
X 450	VCX5094-001Y	CRYSTAL		

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Packing



Packing Parts List

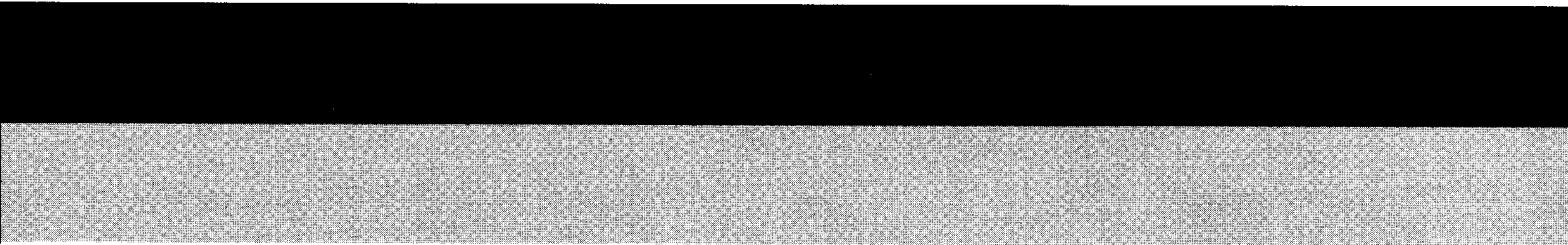
BLOCK NO. **M3MM**

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	P 1	VPE3026-007	POLY BAG	FOR SET	1		
	P 2	QPGA015-03503	POLY BAG	FOR POWER CORD	1	B	
		QPGA012-02505	POLY BAG	FOR POWER CORD	1	E,EN,G,J	
		QPGA012-02505	POLY BAG	FOR POWER CORD	1	U,UB,UT	
	P 3	VPE3005-005	POLY BAG	FOR INSTRUCTION	1		
	P 4	VPC9293-005	CARTON		1	B,E,EN,G	
		VPC9293-005	CARTON		1	U,UB,UT	
		VPC9293-006	CARTON		1	J	
	P 5	VPH1716-001	CUSHION(F)		1		
	P 6	VPH1716-002	CUSHION(R)		1		
	P 7	-----	CARTON LABEL		1		
	P 8	VYN9325-410	NAME PLATE		1	UT	

Accessories Parts List

BLOCK NO. **M4MM**

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A 1	VNN9325-671	INSTRUCTION		1	B	
		VNN9325-111	INSTRUCTION		1	U,UB,UT	
		VNN9325-141	INSTRUCTION		1	U,UB,UT	
		VNN9325-251	INSTRUCTION		1	E	
		VNN9325-261	INSTRUCTION		1	E,EN,G	
		VNN9325-271	INSTRUCTION		1	EN	
		VNN9325-611	INSTRUCTION		1	J	
	A 2	QAM0006-001	OPTICAL CORD		1		
	A 3	VMP0088-001JW	PIN CORD		1		
	A 4	VGR0066-101	RIMOCON UNIT		1	J	
		VGR0066-201	RIMOCON UNIT		1	B,E,EN,G	
		VGR0066-201	RIMOCON UNIT		1	U,UB,UT	
	A 5	QMP5520-183BS	POWER CORD		1	B,UB	
		QMP1F00-183	POWER CORD		1	J	
		QMP39F0-183	POWER CORD		1	E,EN,G	
		QMP7350-150	POWER CORD		1	U,UT	
	A 6	R6PRPA-2STSA	BATTERY	FOR RIMOCON	2		
	A 7	BT-20066A	SERVICE NIT LIS		1	B	
	A 8	BT-54008-1	W.CARD		1	R,E,EN,G	
		BT-51009-3	W.CARD		1	J	
		BT-52001-4	W.CARD		1	J	
	A 9	BT-20044G	SAFETY INST		1	J	
		E43486-340B	SAFETY INST		1	B	
	A 10	V04062-001	AC PLUG		1	U,UT	



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